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ABSTRACT

A comprehensive study of the current state of library services and library cooperative activities in Massachusetts found that the state's 2,796 public, academic, school, institutional and special libraries make a significant contribution to lifelong learning, to the economy, and to the quality of life. The libraries have a combined collection of over 72 million volumes, and they are visited about once a month per resident. Because of funding cuts, however, library services are eroding, and libraries are increasingly unable to comply with standards set by the Massachusetts Board of Library Commissioners. The outlook is particularly bleak for public libraries, publicly-funded academic libraries, and school libraries. The five types of resource sharing currently in use in Massachusetts are not well coordinated, many services are redundant, and many libraries are excluded by virtue of their size or community served. Improved resource sharing could be accomplished by replacing the state's three Regional Public Library Systems with six to 12 library cooperatives serving smaller geographic areas. The cooperatives would offer a full range of resource sharing services to all libraries in their regions. Resource sharing can also be enhanced through the appropriate application of new information technologies and by expanding the role of the Massachusetts Board of Library Commissioners. The Board could also address funding for all types of libraries. It is concluded that the Board, networks and library cooperatives, and local libraries all need to adopt new strategies to achieve a multitype resource sharing structure for Massachusetts. An Appendix contains an 18-item bibliography, glossary of 27 terms, and 24 statistical tables that provide information about 2,796 academic, public school, institutional, and special libraries in Massachusetts, by type of library. Information contained in the tables includes: holdings; periodicals; patron visits; circulation; expenditures; use of automation; reference services; and interlibrary lending. (KRN)

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MASSACHUSETTS LIBRARIES: AN ALLIANCE FOR THE FUTURE

for

THE MASSACHUSETTS BOARD OF LIBRARY COMMISSIONERS
648 Beacon Street
Boston, Massachusetts 02215

submitted by

José-Marie Griffiths
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and

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2615 Shoreline Road
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October, 1991

Federally funded with L.S.C.A. Title I funds through the Massachusetts Board of Library Commissioners

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ACKNOWLEDGEMENTS

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The Massachusetts Board of Library Commissioners (MBLC) staff have all been extremely helpful and forthcoming with information and data. Mr. Roland Piggford and Mr. Robert Maier (Project Administrator) were particularly supportive without attempting to influence or guide our results. The success of this project is due in large part to their ability to understand what we were trying to accomplish on the project and to support the work when needed. The Project Administrator had a knack for knowing when to stress schedule and budget and when to let us think through the complexities of the study when that required extra time. Mr. John Ramsay provided useful and timely data throughout the project.

Staff at King Research included Anne Dunthorn who performed all of the computer data processing, Mary Kerr Pigeon who did most of the word processing, and Kimberly Kertis and Paula Strain who helped with telephone interviews, patron surveys, and cost finding studies. They also made helpful suggestions to the project.

The project was supported by an Advisory Committee which was formed prior to the award of the contract to help formulate project objectives and actual specifications for the Request for Proposal. The four official committee meetings held with King Research were all well-attended. The advice given during these meetings and through other forms of communications was always very useful. The members of the advisory committee are listed on the next page.

In order to produce a report of the scope, complexity, and importance of the Study, a large number of people must be willing to participate and contribute. We thank all of you even though literally hundreds cannot be acknowledged by name. The Report reflects an incredible amount of energy and thought of these hundreds that cannot be easily expressed in a few words or pages in this report. We have tried to describe, summarize, and analyze a very complex environment. We have also attempted to convey a quantitative perspective

on this environment that can be used now and for a long time in the future in making resource sharing, system, and other decisions; and in accountability of these systems. We hope the readers of this report will give it the same attention and thought that the providers of the data, information, and suggestions have done.

José-Marie Griffiths
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Please accept out apologies for omissions or commissions on this list.

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APPENDIX A

EXECUTIVE SUMMARY

BACKGROUND

This Executive Summary briefly describes the results and recommendations of a major study of libraries in Massachusetts. The study was addressed to two main objectives:

- assessment of the current state of library services and library cooperative activities in Massachusetts, and
- recommendation of strategies to develop an action plan for the improvement of library services for the residents of Massachusetts.

The study was conducted through:

- surveys of 5 types of libraries (i.e., public, academic, school, institutional, and special),
- surveys of library users from 19 public libraries,
- cost finding studies of 16 public libraries,
- 114 in-depth interviews with members of the library community, and
- extensive analysis of secondary sources of data.

Supplemental to this Executive Summary are two reports: Massachusetts Libraries: An Alliance for the Future: Final report and Technical Report.

After careful analysis of the data collected, recommendations were addressed to the following areas:

- Resource sharing
- Library automation and networking
- Library support in small communities
- Preservation
- Role of the Massachusetts Board of Library Commissioners
- Funding
- Accountability
- Other specific recommendations

The recommendations take into account the fact that there are already significant library resources in Massachusetts. However, the purpose of the recommendations is to build upon the strength of these resources so that library services can be more efficient and effective in meeting the needs of Massachusetts residents. **To do this a statewide, multitype resource sharing structure is recommended.**

USEFULNESS AND VALUE OF LIBRARIES IN MASSACHUSETTS

Libraries are a marvelous invention. The concept of a community collectively acquiring books, periodicals, and other information to be shared by everyone in the community is a simple, but elegant, notion. What if there were no libraries? We estimate that it would cost public library users about eight times more than it costs the library to obtain the information from other sources and, furthermore, patrons would need to spend 1.4 hours more of their time in getting this information. In other libraries (i.e., academic and special), studies show it would cost users five to ten times more to obtain information if they did not have libraries. Thus, the investment by the communities served by libraries is clearly a good one from a direct economic standpoint. However, a far greater return on this investment is in the significant contribution that libraries make to lifelong learning, quality of life, and the community's economy.

There is abundant evidence of the importance of reading to all walks of life. For example in the workplace, recent studies have clearly shown that those who do more work-related reading are more productive and they are likely to make the greater contributions to

their organizations and society. One reason that reading is essential to success is that published knowledge is growing so rapidly -- all of the knowledge gained throughout the history of humankind, up to 1975, has now doubled and will double again in the next 15 to 17 years. This means that, at the time one graduates from college, one has been exposed to only one-sixth of all the knowledge that must be mastered during one's career. Thus, one of the principal objectives of education must be to teach students to learn how to learn. Furthermore, the educational process must provide knowledge of information tools and teach students the skills to use them. Library services are a key component in this arsenal of tools. Library use is found to be highly correlated with the success and performance of businessmen, scientists, engineers, lawyers, medical practitioners, educators, managers, and so on.

Unfortunately, there is disturbing evidence that we, as a society, are losing the ability to use the powerful tool of reading. Libraries can have a significant impact on stemming this trend, beginning with preschool children and continuing throughout formal education. Currently, there are nearly 34,000 children's literature and special programs presented annually in Massachusetts (2 per week per library). Children not only gain interest in books and reading as a result of these programs, they also are exposed to learning mechanisms that are found to be far better than television and other means. These formative years are critical to how the brain will form to process information for learning throughout life. At that point, school librarians pick up and teach research skills; media use and interpretation; critical thinking and problem solving skills; and library skills to apply information tools for lifelong learning and meeting other needs through life. School, academic, and public libraries all provide "information laboratories" for students at all levels to learn and apply their skills in using information tools. In Massachusetts, libraries are visited 34 million times annually for educational purposes.

The quality of life of Massachusetts' residents is also enhanced through extensive use of libraries. A great deal of public library use involves general reading for cultural enhancement. Another useful contribution to the quality of life is achieved through library use for solving day-to-day problems such as shopping, travelling, etc. (8.2 million visits), addressing personal family needs such as finance, illness, obtaining a job, alcohol or drug problems, etc. (7.3 million visits), and assisting with hobbies or other self-help activities such as carpentry, needlework, car repair, cooking, etc. (5.9 million visits). Public libraries in Massachusetts circulate over one-half million items to residents living in nursing homes or hospitals, and in underserved geographic areas. Nearly 100,000 residents are helped through special outreach programs such as literacy, job programs, etc., and thousands with visual, hearing, or physical impairments are assisted through special equipment or facilities.

Libraries make a contribution to the economy of Massachusetts by providing information to the public, students, teachers, and workers from all sectors far less expensively than any other alternative. Some are surprised at the extent to which public libraries support small businesses and even government agencies. Over four million visits to public libraries are by self-employed persons or those employed by small businesses which cannot afford all their needed library services. There are an additional 7.5 million work-related uses of public libraries by employees of other companies, government agencies and educational institutions. They use public libraries because public library resources are better and less expensive than any other alternative. Another contribution of libraries to the economy is that information provided by libraries results in performing day-to-day activities, work, education, and other endeavors better and less expensively. Use of information provided by public libraries in Massachusetts, for example, is shown to save patrons time or money in an appreciable proportion of self-help, work, and other purposes for which patrons visit the library. In the workplace, such savings have been found to average $100 per visit; applied to Massachusetts library use, the savings would be in the billion dollar range.

THE STATUS OF LIBRARIES IN MASSACHUSETTS

The 2,796 libraries in Massachusetts have a superb combined collection of over 72 million volumes. Collectively, these libraries are visited about 73 million times per year, or once a month per resident. These libraries cost over $330 million annually, but when considered on a cost per visit basis (less than a movie ticket) and when compared with their usefulness and value, the investment appears to be a sound one. Unfortunately, this investment does not accomplish all that it could in Massachusetts.

Until recently, public libraries in Massachusetts compared very well among public libraries in other states. The average income and expenditures were both well above national per capita averages and indicators of service have also been above national averages. Yet the past investments and substantial usefulness and value of the public libraries are now in serious jeopardy. For a time, public library income per capita, even when inflation is taken into account, increased from year to year. However, in the last three years, a peak has been reached and there is evidence of a decline. The standards set by the MBLC, incentives for achieving these standards, and other programs have placed Massachusetts public libraries in good stead in the past, but, these fine programs are now in disarray.

While the bleak outlook for public libraries is only recent, the picture for publicly-funded academic libraries could be called dismal at best. Funding and resources of the libraries of the 29 academic institutions funded by the Commonwealth are well below national medians. Massachusetts' publicly-funded academic libraries are consistently in the bottom half for average number of titles in the collection per student, average number of current serials subscriptions, and average number of library staff necessary to provide services. The low expenditures have resulted in extremely low numbers of titles in collections, current serials subscriptions and library staff necessary to provide services. In fact, using nine such measures, Massachusetts rates substantially below the median for all but one measure. Thus, caught in the current economic decline, it will take these libraries decades to catch up to national norms even if significant increases in funding were possible.

School libraries in Massachusetts are in an even worse situation. In 1986 and 1990 Massachusetts ranked 51st among the 50 states and the District of Columbia in library operating expenditures per student. Considered on a per student basis, Massachusetts school libraries are consistently ranked in the bottom 10 of the 50 states and District of Columbia for expenditures, collections, attendance, circulation, and so on. There are several factors, such as flexible scheduling, which are found to be related to the usefulness and success of school libraries, but in Massachusetts, school libraries are found to do poorly on most of these factors.

STATUS OF RESOURCE SHARING IN MASSACHUSETTS

Communities long ago learned to provide collections and services for their residents to share. However, among communities in Massachusetts there has been less willingness to share library resources than elsewhere. There are excellent library resource sharing programs in such states as Connecticut, Florida, Illinois, New York, and Pennsylvania, to name a few, that go well beyond the resource sharing done among Massachusetts libraries. These programs have been shown to provide better services to a broader range of users at less cost than would occur without resource sharing.

Although a substantial amount of resource sharing takes place in Massachusetts, it is not well coordinated and many services are redundant among service providers. Furthermore, the current resource sharing structure excludes many libraries by virtue of the communities served or their small size. Most of the formal emphasis on resource sharing in Massachusetts has involved public libraries through Regional Public Library Systems and Subregional contracting libraries, Automated Resource Sharing Networks, and the Library of Last Recourse. Basically, there is no formal resource sharing with school libraries; this is largely

due to the fact that there is no one responsible for coordinating these activities except at the local or school system level. In Massachusetts, even interlibrary borrowing among school libraries is only about 71,000; contrasted, for example, to well over one million in Pennsylvania which has a highly structured resource sharing system for school libraries. The publicly-funded academic libraries are organized through the Massachusetts Conference of Chief Librarians of Public Higher Educational Institutions (MCCLPHEI). Though effective, MCCLPHEI lacks the administrative authority and funding necessary to the implementation of a coordinated resource sharing program for its members. Some private academic libraries are involved in networks such as the Boston Library Consortium, but there is no Commonwealth-wide coordinating effort. Medical libraries belong to national resource sharing (through the National Library of Medicine), but neither they nor other special libraries have any formal coordinating body. The Department of Corrections has a coordinating director, but coordination among other institutional libraries is non-existent.

Most states have adopted multitype library resource sharing strategies in which school, academic, public, institutional, and special libraries all participate. This type of resource sharing is less expensive because of "economies of scale," which means that services can be provided at less cost (per unit) when more services are provided. For example, an average interlibrary loans costs $13.50 per loan in libraries where there are fewer than 1,000 loans, but only $4.10 when more than 10,000 loans are made. Such savings are obtained by spreading large fixed (capital) costs of computers, systems, etc. across more units and by negotiating volume discounts with vendors. Some services, such as interlibrary lending, can be done less expensively on a "production" basis than piecemeal. For many resource sharing services, the costs are as low as one-fourth the cost of doing them independently.

There are basically five types of resource sharing currently taking place in Massachusetts: 3 Regional Public Library Systems (with 13 contracting libraries), The Library of Last Recourse, 11 Automated Resource Sharing Networks, other formal and informal resource sharing, and consultant and other Commonwealth services provided by the staff of MBLC. The Regional Public Library Systems provide interlibrary lending, reference services, delivery, centralized purchasing of supplies, bookmobile services and deposit collections, technical services support, technical assistance, and other services. The types and amounts of services vary among Regions because of the wide disparity of environments and library support needs.

Boston Public Library (BPL) has been designated the **Library of Last Recourse.** The principal service is access to an exceptional collection of research, business, and other scholarly materials. Services include delivery and circulation of research materials for use within any library across the state.

The basic concept behind Automated Resource Sharing Networks is for groups of libraries to cost-effectively utilize automated bibliographic databases through sharing centralized computers and databases. There are six basic services now being provided by these centers: cataloging, automated circulation, online public access catalog (OPAC), interlibrary lending (request processing), search services, and acquisitions.

Another important resource sharing center is **The Boston Library Consortium** which serves a cooperative association of eleven academic and research libraries (including Boston Public Library and the State Library). In addition, there are many other formal and less formal library resource sharing activities taking place throughout Massachusetts. Resource sharing is also done through NELINET (OCLC), Research Library Network (RLN), Fenway Library Consortium, Worcester Area Cooperating Libraries (WACL), Southeastern Massachusetts Cooperating Libraries (SMCL), Boston Theological Institutes, Northeast Depository Library, Northeastern Consortium of Law Libraries, among other formal groups, and several informal groups of libraries formed to provide cooperative purchasing.

The **Massachusetts Board of Library Commissioners** provides resource sharing center through consulting and other services. Certain consulting services should be provided on a Commonwealth-wide basis, and it is appropriate for MBLC to provide such services. The

MBLC also provides coordination of programs with and among school media centers, public, academic, special, institutional libraries, and libraries serving the handicapped.

While a great deal of resource sharing is taking place in Massachusetts, there is considerably more that can be done to achieve substantially greater economies and/or to provide better services. Small public, school, and other libraries can benefit far more, additional libraries should be taking advantage of automation, and there should be better coordination of resource sharing now being performed by Regional Public Library Systems, Automated Resource Sharing Networks, and the Library of Last Recourse. All three provide some level of interlibrary lending and the Regional Systems and Library of Last Recourse provide reference referral. Clearly, there needs to be coordination as to which interlibrary loan processing and reference referral should be done locally as opposed to on a Commonwealth-wide basis so that resources can be optimally used. Below is a set of recommendations that we believe will provide a structure and strategies for extending resource sharing and achieving it more efficiently than is currently being done.

RECOMMENDATIONS

Lack of coordination and redundancy of resource sharing can be addressed by restructuring current entities and services. Our primary recommendation is to replace the three current Regions with "Library Cooperatives" covering six to twelve smaller geographic areas. These Library Cooperatives would offer a full range of resource sharing services to all libraries in their respective geographic areas. We emphasize that not all service offerings are likely to be of interest to every type of library, nor to libraries of all sizes. However, there are some core services that should be provided by every Library Cooperative. Interlibrary lending (and ILL request processing services), reciprocal borrowing and/or in-house library access, access to solid reference collections and reference referral, and delivery should be extended to all libraries for the benefit of their patrons. These services should be largely funded by the Commonwealth through MBLC. Otherwise, central processing of services (automated and non-automated) should be provided to those desiring them and willing to pay for them. These services would include automated circulation control and other automated services, cooperative purchasing to achieve vendor discounts, acquisitions, cataloging, and so on. Furthermore, a range of outreach, consulting, and continuing education programs should be made available to those libraries desiring them. We emphasize that not all services need be actually "produced" by the Library Cooperative, but that the Cooperative must, at minimum, provide access to them through a vendor or library under contract.

There are questions of how many Library Cooperatives there ought to be and what happens to existing resource sharing entities? The optimum size of a Library Cooperative requires that a balance be struck between conflicting factors. For example, the number of members or participants should be small enough to have a manageable governance. Yet, there must be enough activity to achieve economies of scale. A balance of these two factors falls in the range of 50 to 200 members or participating libraries. Not all 2,796 libraries in Massachusetts are likely to be involved, and many will want to participate only in core resource sharing services. With this in mind, about six to twelve Library Cooperatives seems about the right number. The evolution could involve a Region expanding its services to all types of libraries within its geographic area or an Automated Network providing an extended range of services beyond current automated services. A Subregional library could form a nucleus by expanding the range of libraries served and by increasing services offered. One suggested configuration which might be used as a starting point for discussion of a multitype library resource sharing structure in Massachusetts is as follows:

- The Western Region become a Library Cooperative.
- The Central Region could become one or two Library Cooperatives based around Worcester and Fitchburg.

- In the Eastern region, several Library Cooperatives would be formed, based on the similar automated systems used by the automated resource sharing networks in contiguous geographic areas. This would result in the following Library Cooperatives in what is currently the Eastern region:
  - one or more from ABLE, OCLN, SEAL (all utilizing the DYNIX system)
  - CLAMS (all utilizing DRA system, but not contiguous with other DRA networks)
  - one or more from Metro-Boston, MLN, FLO, University of Lowell (all DRA)
  - MVLC, and/or NOBLE (both utilizing the CLSI system)

In this suggested configuration, the Library Cooperatives could arrange for libraries currently in the Western and Central regions to continue to have their automated services provided through C/W MARS.

Interlibrary cooperation and resource sharing can be enhanced through the appropriate application of new information technologies. One of the factors which has contributed to successful library resource sharing in other states is the existence of a statewide telecommunications infrastructure. Massachusetts has the backbone for such an infrastructure in MassNet (which is evolving from the Regents Computer Network). MassNet needs to continue to grow and expand, and more and more libraries need access and interconnections to the network.

In a related development for libraries, a new protocol/standard is under development by the National Standards Organization (NISO 739.50). This protocol/standard, when implemented, will enable the users of automated library systems to search the online catalogs of other libraries using other automated systems as if they were their own libraries' catalog. Also important in cooperation in a networked environment is the open systems interconnections which will facilitate different systems to interconnect at many levels (physical data stream, operating system, applications, etc.). Progress on the development of these standards needs to be monitored and they should be adopted and implemented when available.

Finally, there is an on-going debate about whether the future of automated library catalogs lies in online access or access via CD-ROM. While access to some types of CD-ROM databases may be advantageous (from an economic perspective), it offers considerably less information than its online counterparts. Online catalogs, when implemented as part of an integrated library system, offers current availability information on every item in the catalog. This is extremely important for resource sharing.

Two strong themes come from the library community that concern the role of MBLC. One theme is that there needs to be an "umbrella" organization concerned and responsible for all types of libraries in Massachusetts. Many non-public libraries feel disenfranchised in Massachusetts. We believe that the MBLC is the appropriate agency to assume this role. A theme more directed to MBLC is that it should assume a stronger leadership role in representing libraries regarding future change, legislation, and funding. We further believe that MBLC should fund the following kinds of resource sharing functions and specific services:

- one-time development of resource sharing options, systems and services such as planning and development of the Library Cooperatives, specific automated systems, gateway systems and so on;
- services in which resource sharing benefits all libraries, but costs are disproportionately high for a few libraries such as with net lending, reference and research services, and delivery;
- when a special population is served (e.g., inmates, nursing homes, etc.) or when specific services are needed (e.g., literacy programs for non-English speaking residents); and

- when a needed service has infrequent use such as with some consulting services that can best be accomplished at a state-wide level (i.e., by MBLC staff or through contract).

Funding for these resource sharing services does not preclude Direct Aid to libraries in order to provide incentives to meet meaningful standards.

Following are 22 specific recommendations offered to begin building **An Alliance for the Future in Massachusetts.**

RECOMMENDATION 1: Statewide resource sharing should be based on the coordination and encouragement of a variety of resource sharing activities between and among all types of libraries across the Commonwealth.

RECOMMENDATION 2: The role of the Massachusetts Board of Library Commissioners should be as a coordinator of cooperative initiatives and supporter of activities and services which would benefit the entire Massachusetts library community.

RECOMMENDATION 3: An Interlibrary Cooperation group should be established within the MBLC to assume responsibility for coordinating library cooperation in the Commonwealth.

RECOMMENDATION 4: The Network Advisory Committee should be expanded, or a new Advisory Council formed, to include representation of all cooperative resource sharing efforts (i.e., not just automation). The purpose of the Council is to ensure that the interests and concerns of the entire Massachusetts library community are incorporated into planning future cooperative efforts.

RECOMMENDATION 5: A Massachusetts Library Resource Sharing Policy Board should be established to specifically address resource sharing issues. Their recommendations would be forwarded to the MBLC for final ratification and approval.

RECOMMENDATION 6: The three current regions should be replaced with six to twelve "Library Cooperatives" to offer an integrated range of resource sharing services to all libraries in their area. Such services would include access to collections, reference and research, automation services, operational services, delivery, outreach, consulting, continuing eduction among other services. Basic funding for the Library Cooperatives should come from the Commonwealth (MBLC) and the remaining funds should come from cost recovery of services used by member libraries.

RECOMMENDATION 8: MBLC should actively participate in a further study on the feasibility and design of a common educational network in the Commonwealth which would serve libraries, higher education, and K-12 schools.

RECOMMENDATION 7: MBLC should work closely with the automated resource sharing networks to develop a proposal for using MassNet for linking the automated library systems of the resource sharing networks and, potentially other automated library systems in the Commonwealth.

RECOMMENDATION 9: The automated resource sharing networks and MBLC, through the Network Advisory Council, should determine the interest of member libraries in access to databases and enter into discussions of a pilot project to evaluate network access with the respective database publishers.

RECOMMENDATION 10: The Library Cooperatives should plan their services to support small community (i.e., those serving fewer than 10,000 population) library needs to the greatest degree possible, although not to the exclusion of large community needs.

RECOMMENDATION 11: The MBLC and other agencies should continue to examine and plan a sound Commonwealth-wide preservation program.

RECOMMENDATION 12: The function of cooperation among school libraries and between school libraries and other types of libraries should be delegated to the MBLC with appropriate funding by the Department of Education for Library Cooperative participation and administration.

RECOMMENDATION 13: The MBLC's statutory mandate to develop school library media services should be reestablished by reinstating the language (or language now deemed more appropriate) of Section 19E Paragraph 3.

RECOMMENDATION 14: The MBLC should assume a stronger role and responsibility in directing how existing and new Commonwealth and Federal funds are used to assure that residents of the Commonwealth receive the best possible library service.

RECOMMENDATION 15: The MBLC should develop accountability mechanisms, instruments and definitions for Library Cooperatives, Library of Last Recourse, and other funded projects.

RECOMMENDATION 16: The MBLC should develop a five-year plan for its own mission, goals, measurable objectives and strategies for change regarding implementation of the LSCA Plan.

RECOMMENDATION 17: The MBLC should develop a long-range program for addressing the funding for all types of libraries in Massachusetts including funds for reciprocal borrowing and interlibrary lending, seed money for cooperative projects involving all types of libraries, an appropriate state share of the ongoing costs of operating the cooperatives, support for libraries that meet standards, support for the LLR, and support for the MBLC and the agencies it serves directly.

RECOMMENDATION 18: The MBLC should spearhead a widespread public education program that highlights the importance, usefulness and value of libraries.

RECOMMENDATION 19: Plans for Library Cooperatives that are submitted to MBLC should include a clear statement of how accountability to their members and to MBLC will be achieved, and what the cost will be to provide such accountability.

RECOMMENDATION 20: All entities receiving funds administered by the MBLC (Library of Last Recourse, Regional Contracting Libraries, Library Cooperatives, and others) should be held to higher standards of accountability than are presently required. Accountability should be measured by a series of agreed upon standard output measures to be reported to the MBLC and to users of the service on a regular basis.

RECOMMENDATION 21: The recommendations in **Learning at Risk**, the **Standards for School Library Media Centers in the Commonwealth of Massachusetts** and the results from the 1991 White House Conference on Libraries and Information Services should be adopted to the degree they are compatible with the recommendations of this report.

RECOMMENDATION 22: The institutional and special library communities should develop similar working documents (as **Learning at Risk**) for their libraries.

SECTION 1

BACKGROUND

1.1 Introduction

In 1990 the Massachusetts Board of Library Commissioners (MBLC) published an extensive **Long Range Program: 1991-1996**. The **Program** clearly states library needs, goals and objectives, as well as relevant criteria for project applicants.

The **Program** includes several references to a Statewide Library Development Study which will "review the current status of library development in the Commonwealth and respond to questions in the areas of inter-relationships, structure, funding and needs. This study should provide strategies for improved library development, including multitype library cooperation."

1.2 Study Objectives

In early 1990, a Request for Proposals was issued, competitive proposals solicited, and a contract awarded to King Research, Inc., for "Consultant Services to Enhance Library Development in Massachusetts." The project was addressed to two main objectives:

- assessment of the current state of library services and library cooperative activities in Massachusetts, and
- recommendation of strategies to develop an action plan for the improvement of library services for the residents of Massachusetts.

1.3 Project Methods

A key component of the project was the establishment of a communications process involving all participants in the Massachusetts library community. Such a communications process is essential in a multitype library development effort to foster understanding of the viewpoints and interests of the different library constituencies. The communications process was a two-way process, used both for gathering input as well as for disseminating preliminary results and recommendations. Participants in the process included the Project Advisory Committee, MLTA, MLA, library directors and staff from all types of libraries, library users, MBLC staff, other Massachusetts residents, and library funders.

In order to achieve the project objectives, several aspects of libraries and library services in Massachusetts were studied:

- the status of library services in Massachusetts;
- the strengths and weaknesses of library resource sharing and, in particular, how resource sharing affects library costs;
- the appropriateness of current statutes and regulations in Massachusetts;
- equity and application of library funding at Federal, Commonwealth and local levels;
- the status of current cooperative efforts and relationships among participants;
- governance of cooperative efforts;
- use of technology in libraries;
- appropriateness of statewide and local library measures and norms;
- continuing education for librarians and library staff; and
- ways library services in Massachusetts might be improved.

The study was conducted through:

- 114 in-depth interviews with a number of relevant members of the library community (including directors of the three regional public library systems, directors of the subregional libraries, directors of the automated resource sharing networks, directors of all types of libraries, legislators, MBLC staff, and other interested parties),
- surveys of 5 types of libraries (i.e., public, academic, school, institutional, and special),
- surveys of public library users from 19 public libraries,
- cost finding studies of 16 public libraries, and
- extensive analysis of secondary sources of data (including a King Research database derived from over 300 library studies).

After careful analysis of the data collected, recommendations for the improvement of library services in Massachusetts were developed. Recommendations were addressed to the following areas:

- Resource sharing
- Library automation and networking
- Library support in small communities
- Preservation
- Role of MBLC
- Funding
- Accountability
- Other specific recommendations

The recommendations take into account the fact that there are already significant library resources in Massachusetts. However, the purpose of the recommendations is to build upon the strength of these resources so that library services can be more efficient and effective in meeting the needs of Massachusetts residents. **To do this a statewide, multitype resource sharing structure is recommended.**

SECTION 2

USEFULNESS AND VALUE OF MASSACHUSETTS LIBRARIES

2.1 Introduction

There are 2,796 libraries in Massachusetts which have a combined collection of over 72 million volumes, or about 12 volumes per resident, 690,000 current periodical subscriptions and 30 million volumes of other materials, such as audiovisual materials, maps, sheet music, and so on. Collectively, these libraries are visited about 73.3 million times per year, or 12 times per resident. The collections have an annual circulation of about 66 million items, or about 11 per resident. These libraries cost over one-third of a billion dollars annually to operate. This may seem like a substantial amount but it represents only a very small fraction of the budgets of the communities and organizations they serve: less than one percent in many organizations. The return on this investment in libraries is not only a sound one for residents of Massachusetts, it is an absolutely essential one for the future of the Commonwealth. In this section, we show that libraries in Massachusetts have a substantial effect on life-long learning of residents, quality of life, and the economy of the Commonwealth.

2.2 Libraries Support Lifelong Learning Needs

The case for educational reform was eloquently stated in the report of the National Commission on Excellence in Education, **A Nation at Risk**. The report calls for the aggressive creation of a Learning Society through alliances among teachers, education administrators, parents and other citizens, and the nation's libraries. Libraries of all types, not just academic and school libraries have a pivotal role to play in the Learning Society.

Lifelong learning begins with pre-school children, through formal education, into the work place, and finally into retirement years. A series of studies by King Research has provided abundant evidence of the importance of reading to professionals in the workplace.[1] In every organization studied, professionals (i.e., scientists, engineers, lawyers, educators, medical professionals, managers and administrators, salesmen, etc.) who read more for work-related purposes tend to have higher productivity (measured by six indicators of productivity). Furthermore, those who have received some form of formal recognition for their work are found to read more than those who have not. In one organization, 25 persons were identified

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[1] Two national surveys of scientists and engineers were made under contract with the National Science Foundation and proprietary data obtained from 17 companies, 18 academic institutions, and 5 government agencies.

who were considered to be the most promising professionals in the company based on their performance. These "fast trackers" read substantially more than their cohorts (i.e., others with similar backgrounds in education and years of experience) and professionals on average in their company. Every indicator of professional performance that was developed is correlated with amount of reading. Furthermore, a substantial number of readings significantly affect quality, timeliness, and other important aspects of work performance.

The results above are not surprising considering the importance of new knowledge to work. In science, for example, the amount of recorded knowledge doubles about every 15 to 17 years. This means that all of the knowledge recorded throughout the history of humankind up to 1975 has now doubled. The growth of medical knowledge is even greater. This means that college graduates, upon graduation, have been exposed to only one-sixth of all the new knowledge that they will be expected to master during their careers. This has a profound implication on educational processes. One goal of education must be to teach students to learn how to learn, because continued learning through one's career is such an essential part of the life-long learning process. Furthermore, learning how to learn requires that education must also teach students how to use the information tools that are available to them, which is where libraries come into play. In fact, the extent of use of libraries is also highly correlated with the six indicators of productivity, as well as all the other indicators of professional achievement. Readings from library-provided materials are found to be far more likely to result in improved quality, timeliness, and other performance attributes than readings from personal subscriptions and other non-library sources.

There is an entire body of literature on why reading is such an important means of communication (i.e., assimilating, interpreting, and using knowledge). While formal lectures, informal discussion, audio-visual materials, and so on are important and provide a niche for some forms of learning, reading is probably the single most effective means of communicating scholarly and other knowledge needed to satisfy most personal and work-related needs. Reading is a powerful tool which provides a means for assimilating information at one's own required pace and for stimulating further thought. Unfortunately, there is discouraging evidence (see for example **The Endangered Mind**) that, as a society, we are losing the ability to use this powerful tool. Evidence suggests that the brain acquires its ability to assimilate information, interpret its meaning, and generate new thought at a very young, pre-school age. These brain processes are irrevocably established during the physiological growth of the brain during these formative years. Television (even programs like Sesame Street) apparently thrusts new information at children at such a fast pace that their brains begin rejecting or discarding the information rather than absorbing and contemplating it. This is why children's programs in libraries and reading by parents are so very important during those formative years. In Massachusetts 6.1 million visits each year (23% of the total public library visits) involve preschool children. There are nearly 34,000 children's literature and special programs presented annually in public libraries, an average of nearly two such programs per week per library.

We emphasize that learning how to use libraries effectively is an essential part of one's education. School libraries and library media specialists as teachers play an essential role in learning how to learn. The library media specialists teach research and information access skills; media use, interpretation and appreciation; critical thinking and problem solving skills pertinent to information literacy; and library skills to apply the tools required for life-long learning. The school libraries provide the "laboratory" environment for utilizing the information tools that must be mastered in today's society.

There is abundant evidence of the usefulness and value of school libraries. Studies have shown that student achievement is strongly correlated with school library programs, the verbal component of the SAT is related to good school library services, and other indicators such as quality of reading, problem solving skills, use of newspapers, word study skills, verbal expression, improved self-concept, and critical thinking are all tied to library service. Unfortunately, in Massachusetts, school library services are appreciably substandard compared with other states. Massachusetts ranks low compared with the other states on such indicators as the proportion of schools with school libraries (ranked 39th of 50 states and the District of Columbia) and proportion of pupils in school with libraries (47th of 51); average total expenditures, book, serials, and total collection expenditures per pupil (42nd to 46th of 51), average attendance per pupil (49th of 51), pupil participation in library skills instruction (37th of 51), circulation per pupil (46th of 51), and so on. Several factors which have been found to make school libraries successful are not widely utilized in Massachusetts. Such factors include flexible schedules, adequate instructional and curriculum involvement, jointly planned lessons and units, the quality of print and non-print collections, and non-supportive attitudes of superiors. Furthermore, many school libraries incur needless costs and are not as effective as possible, partially because of a lack of coordination and resource sharing.

Massachusetts has a marvelous resource in its libraries. Some 150 academic institutions and the Boston Public Library have some of the finest scholarly library collections and services in the world. The Boston Public Library has the sixth largest research library in the U.S., with substantial strengths in science and technology, music, fine arts, humanities, and social science. It has a fine rare books and manuscript department. It has the largest patent document holdings in New England. In addition to U.S. patents, it has a full depository of patents from Canada, the U.K., Japan, and Germany. Other special collections include being a depository library for United Nations' documents and U.S. government documents, as well as having over four million documents on microform. The BPL has a large map collection from the U.S. Geological Survey and has been designated as a depository and archive for Massachusetts' newspapers from the late 1800's forward. Finally, the Research Library has a large business library branch (the Kirstein Business Library).

Academic libraries are visited over 20 million times annually by students, faculty, other university staff, and the general public. With a few exceptions, these institutions have made these resources widely available and accessible through resource sharing and automated networking. Clearly, academic libraries make a considerable contribution to learning

processes. Certainly our studies of scientists and engineers demonstrate that academic libraries are extensively used, with strong indicators of improved performance. However, there is strong evidence that the 29 academic institutions funded by the Commonwealth are considerably underfunded. Massachusetts' publicly-funded academic libraries are consistently in the bottom half for average number of titles in the collection per student, average number of current serials subscriptions, and average number of library staff necessary to provide services.

Institutional and special libraries also contribute to lifelong learning. Many correctional institution libraries are used for educational purposes, ranging from overcoming illiteracy all the way to actually helping obtain a high school or other degree. Special libraries are used not only to address specific work-related activities, but also as an important source of continuing lifelong learning. For example, in a recent National Science Foundation study, we found that 30 percent of journal article readings by scientists and engineers and 18 percent of book readings are for the purposes of keeping informed or for professional development; a substantial amount of this reading is from library-provided materials.

Public libraries contribute substantially to all phases of lifelong learning. As mentioned above, public libraries play a vital role in early preschool learning. Our public library patron survey indicated that, in addition to general reading from library materials for cultural enrichment, 13 million visits (nearly one-half) to public libraries annually are made to meet educational and training needs. Some visits are by students (5.1 million visits) and some are profession-related (6.6 million). Furthermore, teachers currently visit public libraries 2.4 million times annually to meet educational needs.

2.3 Libraries Contribute to Improving the Quality of Life

Public libraries in Massachusetts are used extensively for the purpose of general reading (71% of visits -- note that visits are often made to meet several information needs). However, they are also extensively used to meet other personal needs as well, such as solving day-to-day problems related to travel, shopping, etc. (8.2 million visits) and addressing a personal or family need such as an illness, alcohol or drug problem, obtaining a job, etc. (7.3 million visits). Furthermore, the libraries are often used for keeping informed with the news, politics, etc. (0.2 million visits), to learn more about our cultural heritage or religion (6.1 million visits) and to help with hobbies or self-help activities such as carpentry, needlework, cooking, etc. (5.9 million visits).

Public libraries in Massachusetts circulated over one-half a million materials to residents living in nursing homes or hospitals, and in underserved geographic areas. Nearly 100,000 residents are helped through about 10,000 special outreach programs such as literacy, job programs, etc. Finally, thousands of persons who are hearing, visually, or physically impaired are assisted through special equipment or facilities provided by public and other types of libraries.

Thus, public libraries in Massachusetts are used to address a wide range of information needs related to improving quality of life.

2.4 Libraries Support the Economy of Massachusetts

There are two ways that libraries support the economy of Massachusetts. The first way involves the extent to which libraries support companies, government agencies, academic institutions, and other economic sectors. The second way involves savings achieved by individuals who use libraries.

As pointed out earlier, work-related library use clearly affects productivity and other types of performance in the work place. Not only is it important to have strong library services in the work place, but professionals also need external sources such as public libraries for work-related information materials. In Massachusetts, public libraries account for 9 million work-related library uses (including meeting teacher needs). National surveys and other studies show that scientists and engineers rely on outside public and academic libraries for about 14 and 3 percent of their library uses respectively. In some places, public library services are considered such an integral part of the economic environment that the public libraries are highlighted in promotional literature used to attract new businesses.

Public libraries are also frequently used to satisfy work-related information needs for science and engineering (2.9 million visits), legal work (2.4 million visits), management and administration (2.6 million visits), sales and marketing (2.3 million visits), and other purposes (1.6 million visits). Many of these uses are by persons employed in small businesses or who are self-employed and cannot afford all their needed library resources. In fact, 4.3 million visits to public libraries are by persons employed in small businesses. Other work-related uses of public libraries also involve employees of large companies (4.5 million visits), government agencies (860,000 visits), and universities, schools, or other education-related organizations (2.1 million visits).

We obtained several other strong indicators of the value of public libraries from the user survey. Economists indicate that a portion of the value of goods and services is determined by what consumers pay for them. Even though libraries generally do not charge for services, users "pay" for library services in the time they spend getting to libraries and in using their services. In the workplace, professionals' time is their most scarce resource, and they obviously are highly selective concerning how they use this time. One can put a dollar value on this time because users' salaries are known and we find such "value" placed on library services to be roughly five to ten times the cost of the libraries being used. The average time of professionals is 1.2 hours per use (i.e., visits and additional uses). In Massachusetts, we find that public library patrons average 10 minutes getting to the library and 42 minutes per visit. Altogether this comes to 23.4 million hours -- quite a testimony to the "value" they place on public libraries. The total time for library use in Massachusetts is probably well over 50 million hours, including use of all types of libraries.

Another way to assess the value of libraries is what it would cost users to obtain the library-provided information or services if there were no libraries. By their nature, libraries provide a variety of information resources that are shared by user communities. Libraries provide information services less expensively and/or better than any other source. In the workplace, we have found that it would cost users five to ten times as much to obtain information provided by libraries if they did not have libraries and had to obtain it from another source. To establish an indicator of this value of public libraries, we asked users to indicate what they would do to get the material or information they obtained on their most recent visit if they did not have a public library or other library to use. In some instances, the users indicated they simply would not get the information (50.3% of the visits). However, in instances where they provided such estimates, the average cost of using alternative sources is 1.4 hours in user time and $35 to buy the material or information or go to another source (e.g., a counseling service). Summed over all visits to public libraries, the savings in patron time is 19 million hours, and, in dollars, users saved nearly $500 million. Compared with total public library expenditures of $114 million, the savings of time and money is an impressive return on investment. Again this is a substantial indicator of the value of public libraries.

We also examined the consequences of public library use. The Massachusetts public library user survey confirms that one favorable consequence of public library use is that it saves patrons time or money. In fact, this is said to be true in work-related uses of the library (9% of visits); hobby-related uses (20% of visits), solving day-to-day problems (11% of visits), and addressing a personal or family need (6% of visits). In companies and government agencies elsewhere, the average savings of time or money from library use amounts to over $100 per use where, in some instances, the savings are very high. If these savings are applied to work-related uses of libraries in Massachusetts, the savings would be over $1 billion.

Similar results are found for other favorable consequences of library use, such as the information being absolutely required or the activity for which the library is used could not be done otherwise (particularly for meeting educational needs). Many visits also resulted in improved quality or timeliness of the activity.

SECTION 3

THE STATUS OF LIBRARY SERVICE IN MASSACHUSETTS

3.1 Summary of Basic Library Statistics

Basic library statistics in Massachusetts include number of libraries, population served, holdings, periodical titles, visits, circulation and expenditures. These data and averages, given on a per capita or other relevant basis, are summarized in Table 1. More detailed tables are given in Appendix A of this report and throughout the Technical Report. The total number of libraries across six library types is 2,796. We estimate that there are about 72 million volumes held and 690,000 annual periodical titles purchased by the libraries in Massachusetts, or about 12 volumes per capita and 0.12 periodical titles per capita.[2] Massachusetts residents average about 11 items circulated per person each year (i.e., about 66 million total items circulated) or nearly one item per month on the average. They average slightly more visits per year — 12 visits or 73 million total. The total expenditures is about $360 million, or $60 per person, or about $5.00 per visit across all types of libraries. The statistics in Table 1 clearly show the differences among the types of libraries, and they also provide evidence of differences in the cost to provide library services. To demonstrate these differences, we discuss averages in terms of per person in the community served (i.e., total population for public libraries; students, faculty and other staff for academic and school libraries, etc.).[3] The average number of persons served by libraries ranges from 16,000 by public libraries to 300 by private institutional libraries.[4]

Amount and types of holdings also vary considerably among the types of libraries. Public libraries hold far fewer monographs and purchase fewer periodicals per capita than the other types of libraries; largely because the other types have a more clearly defined population of constituents that they serve and collections development can be more focused. Circulation per volume held, for example, is substantially less for public libraries than the other types (except academic which must maintain large collections for accreditation and other purposes). Libraries primarily serving professionals tend to have a large number of periodicals per capita (and studies elsewhere show they are extensively used).

Expenditures per capita are in the $20 per person range for academic, public, and publicly-funded institutional libraries and in the $50 to $70 range for private institution, special, and school libraries. The high costs per capita for private institutional and special

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[2] Because many people use more than one type of library, the population in Massachusetts (just over six million in 1990) is used as a basis for estimating per capita averages.

[3] This view ignores the extensive use of academic libraries by non-academic researchers and others.

[4] The latter population (and publicly funded institutions) is low because the institutions served includes a large number of hospitals which serves medical and other staff and often patients, and the total in a hospital is about 300 persons. Publicly funded institutions include correctional institutions which increases the average.

TABLE 1

SUMMARY MASSACHUSETTS LIBRARY STATISTICS

Inputs and Outputs	Academic	Public	School	Institutions		Special
				Publicly funded	Private	
No. of libraries	150	374	1,408	56	156	652
Population						
Persons served (million)	0.74	6.0	0.83	0.04	0.05	0.70
Persons served per library (000)	4.9	16.0	0.59	0.8	0.3	1.1
Holdings						
Monographs (mil. vols.)	34	22	11.6	0.4	0.6	3.1
Monographs per library (000)	230	60	8.2	6.8	3.9	48
Monographs per capita	46	3.7	14	9.1	13	44
Periodicals (000 titles)	335	49	37	3.3	44	220
Periodicals per library	2,200	130	26	59	280	340
Periodicals per 10,000 capita	4,500	82	450	750	9,400	3,200
Visits						
Total (million)	21	27	15	1.5	1.2	7.6
Visits per library (000)	140	72	11	27	7.7	12
Visits per capita	28	4.5	18	34	26	11
Circulation						
Total (millions)	7.3	36.9	18	0.7	0.3	2.5
Circulation per library (000)	49	99	13	13	1.9	3.8
Circulation per capita	10	6.2	22	16	6.3	3.6
Expenditures						
Total ($ millions)	$146	$125	$50	$0.8	$3.4	$38
Expenditures per library ($000)	$970	$330	$36	$14	$22	$58
Expenditures per capita ($)	$20	$21	$60	$18	$72	$54
Expenditures per visit ($)	$0.70	$4.60	$3.33	$0.50	$2.80	$5.00

SOURCE: (1) King Research, Inc., Input and Output Survey of Libraries, (2) Statistics of Public and Private School Libraries 1985-86, Center for Education Statistics 1987, (3) HEGIS Disks, U.S. Department of Education, 1989.

libraries is due to the extensive information needs of constituents served (i.e., medical for private institutions and researchers and other professionals for special). The instruction component of school libraries increases their labor costs. Perhaps an even greater factor is that these libraries all tend to be small (e.g., serving on the average between 300 to 1,100 persons). In fact, special libraries in corporations tend to serve a special segment of the population (i.e., professional appreciably more than support staff) and average costs per professional for special libraries tend to be in the $500 to $1000 range.[5]

The statistics given in Table 1 show that there are important differences among type of libraries. They also provide evidence that smaller types of libraries tend to cost more on a per capita basis than larger ones. In this report, we place a great deal of emphasis on resource sharing among libraries, with an emphasis on multitype resource sharing. Throughout discussion of resource sharing, we attempt to point out how important resource sharing is to smaller libraries and to acknowledge and take into consideration basic differences among types of libraries. The above description provides some comparisons among types of libraries in Massachusetts. Below, we discuss the current status of libraries in Massachusetts and provide some comparisons of libraries in Massachusetts with libraries elsewhere.

3.2 The Status of Libraries in Massachusetts

Until recently, public libraries in Massachusetts compared very well among public libraries in other states. The average income and expenditures were both above national averages per capita and indicators of service (e.g., volumes added to collections, circulation, etc.) have also been above national averages. Yet the past investments and substantial usefulness and value of the public libraries are now in serious jeopardy. For a time, public library income per capita, even when inflation is taken into account, increased from year to year. However, in the last three years, a peak has been reached and there is evidence of a decline (when inflation is taken into account). Clearly, the standards set by the MBLC, incentives for achieving these standards, and other programs have placed Massachusetts public libraries in good stead. However, these fine programs are now in disarray. Only 12 percent of public libraries currently have received budget increases, and many of these only barely meet increases in inflation. The rest have incurred de facto decreases resulting from inflation (70%) or actual decreases even in constant dollars (18%). These decreases have resulted in a substantial increase of non-compliance with minimum standards during the current year (at least 7% for hours open and 9% for materials budget). Across the many libraries, hours of opening have been cut back (29% of libraries), staff laid off (22%), materials budget reduced (36%), and such major cutbacks have been incurred in such valuable services as children's programs (12%), young adult programs (9%), continuing education (15%), and capital projects (16%). Projections for the future look even worse. Not only are

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[5] An exception to this assertion concerning the large average cost of small libraries is with publicly funded institutional libraries, but here data showing low costs (per capita) from correctional institutions tend to skew the average.

current programs and services in jeopardy, a badly needed capital program for public library buildings may be at risk. Recent surveys show that 56 percent of public library buildings in Massachusetts need major renovation or new buildings.

While the bleak outlook for public libraries is only recent, the picture for publicly-funded academic and school libraries could be called dismal at best. Funding and resources of the libraries of the 29 academic institutions funded by the Commonwealth are well below national medians. The low expenditures have resulted in very low numbers of titles in collections, current serials subscriptions and library staff necessary to provide services. In fact, with nine such measures, Massachusetts is substantially below the median for all but one measure. Thus, caught in the current economic decline, these libraries will take decades to catch up to national norms even if significant increases in funding were possible. We have no such comparable data for libraries in private academic institutions.

School libraries in Massachusetts are in an even worse situation. In 1986 and 1990 Massachusetts ranked 51st among the 50 states and the District of Columbia in library operating expenditures per FTE student.Considered on a per student basis, Massachusetts school libraries are consistently ranked in the bottom 10 of the 50 states and District of Columbia for expenditures, collections, attendance, circulation, and so on. There are several factors found to be related to the usefulness and success of school libraries. School libraries in Massachusetts are found to do poorly on many of these factors:

- About 57 percent of the school library programs have a flexible schedule that provides daily open access service to the whole school community.
- Only 22 percent of the schools indicated they have fully adequate instructional and curriculum involvement with teachers and students.
- Only 11 percent indicated that they fully jointly plan lessons and units with classroom teachers to integrate library skills into curricula.
- About 62 percent have regularly scheduled classes in basic reference and information using skills.
- Nearly all have a centralized or classroom collection, but the adequacy of both print and non-print collections are rated low (3.44 and 3.09 respectively on a rating scale of 1 to 5). The strength of these collections are rated quite low (1 - 5 with 1 being very weak and 5 very strong): science — 3.21, math — 2.46, social studies — 3.86, language arts — 3.96, and other — 3.62.
- About one-half have a planned program of activities and services.
- The following "importance of reading" programs are used:

–	Media/book displays	90%
–	Circulation figures and trends	49%
–	Special reading programs	44%
–	Surveys of students	26%
–	Surveys of classes	12%
–	Electronic bookshelf	26%

Part of the problem is caused by budgets and library programs. But part also involves the attitudes of superiors, teacher colleagues, and parents of students. Superintendents and

school committees are rated quite low in their supportive attitudes toward school libraries, although principals and teachers are rated somewhat higher (3.60, 3.45, 4.17, and 4.12 average ratings respectively: 1 — 5 with 1 being very non-supportive and 5 very supportive). Clearly, something must be done to bring a majority of school libraries in Massachusetts up to even an acceptable level.

The current economic picture for public institutional libraries is in a state of flux with some institutions being closed and others being built. Expenditures and service provision vary substantially across institutions. Only the Department of Corrections has a Statewide Coordinator of Library Services to provide an organized development of library services. However, their procurement and other regulations do not apply well to library purchasing and operations, making management and control difficult. Private institutional libraries and special libraries have substantial collections and resources, but we do not have norms for comparative purposes.

3.3 Status of Resource Sharing in Massachusetts

There are basically five types of resource sharing currently taking place in Massachusetts:

(1) 3 Regional Public Library Systems (with 13 contracting libraries),
(2) The Library of Last Recourse,
(3) 11 Automated Resource Sharing Networks,
(4) Other formal and informal resource sharing, and
(5) Consultant and other Commonwealth services provided by the staff of MBLC.

This resource sharing overlaps substantially in terms of geographic areas and libraries served. Furthermore, there is also some overlap in the services provided. The five types of activity are described below.

The three **Regional Public Library Systems** are:

- Eastern Region (EMRLS) located at the Boston Public Library with subregional libraries in Andover, Wellesley, Quincy, Bridgewater, New Bedford, Falmouth, and Boston. There are 200 member libraries. The 1992 annual budget for this region is $4,059,308. Examples of output in 1989 include 48,238 interlibrary loan requests filled; 120,780 items circulated by bookmobile; 15,186 A-V items loaned; 78 consultant library visits; 166 print jobs with 718,915 printed sheets; and 919 information requests;
- Central Region (CMRLS) located at Worcester Public Library with a subregional library at Fitchburg. There are 71 member libraries. The 1992 annual budget is $965,528. Examples of outputs for 1990 include 28,590 interlibrary loan requests filled (including 4,266 by C/W MARS); 13,440 A-V items loaned; 2,072 reference requests for information from member libraries; consultant services involving 77 library visits and 834 requests for information; 8 workshops and informational meetings attended by 829 librarians; and ½

million sheets printed for member public relations; average of 494 items delivered daily; and 84,944 items circulated to 58 libraries by bookmobile.

- Western Region (WMRLS) located at Hatfield with subregional libraries in Pittsfield, Springfield, and Northampton. There are 101 member libraries. The 1992 budget was $978,304. Examples of outputs in 1990, include 19,068 interlibrary loan requests filled; 198,068 items circulated by bookmobile; 10,559 A-V items loaned; 106 libraries in summer program; 306 libraries and 520 persons attending continuing eduction programs; 830 advisory service hours; 1 print job; and 1,080 telephone reference requests filled.

The basic services provided by the Regional Public Library System include interlibrary lending, reference and research services, delivery of materials between libraries, lending of audiovisual materials and equipment, centralized purchasing of supplies, bookmobile services and deposit collections, technical services support, consultant and technical assistance, and other services. The types and amounts of services vary among Regions because of the wide disparity of environments and library support needs.

Boston Public Library (BPL) has been designated the **Library of Last Recourse**. An appropriation on a per capita basis is provided to BPL. MGL Ch 78, S 19C appropriates $0.50 for each resident of the state to the Library of Last Recourse. The BPL currently receives about $0.768 per capita. The principal service is access to an exceptional collection of research, business, and other scholarly materials. Services include twice weekly delivery to Central and Western Regional Headquarters, UMass-Amherst, Medical School-Worcester, microfiche access to serials holdings, and circulation of research materials for use within any library across the state. An agreement between MBLC and BPL states that no more than 50 percent of funds from state sources provided for the Library of Last Recourse shall be expended on personnel.

Eleven Automated Resource Sharing Networks have been developed since 1980, largely through LSCA and Commonwealth funds disbursed by MBLC ($12.7 million). However, according to the report, Automated Networks in Massachusetts 1991, an even greater amount of local funds have been used for system enhancements ($18.9 million), thus demonstrating interest and willingness by local municipalities to pay for resource sharing services. The basic resource sharing concept behind Automated Resource Sharing Networks is that groups of libraries can cost-effectively utilize automated bibliographic databases through sharing centralized computers and databases. There are six basic services now being provided by these centers: cataloging, automated circulation, online public access catalog (OPAC), interlibrary lending (request processing), search services, and acquisitions.

The database and bibliographic records (MARC format) consists of library holdings of primarily books, but also periodicals, videos, records, etc. From this central database one can search to determine availability of items for circulation and for interlibrary loan. Some member libraries have online public access catalogs so that patrons can have direct access to the database for local use, interlibrary loan, or non-resident use in another library. The automated

system can also be used for cataloging, acquisitions, collection development, and other operational activities. Some of these networks have several types of libraries as members (i.e., public, academic, and special libraries). Thus far, school libraries have been only minimally involved.

A description of these networks follows:

- Automated Bristol Library Exchange (ABLE) is located in Seekonk. There are 10 full members and 11 dial-up members (all public). The vendor is DYNIX. The operating budget is $163,700 (63% from members). Outputs in 1990 include 421,623 titles and 879,000 items with circulation of 763,146 items and 23,517 interlibrary loans.
- Cape Libraries Automated Materials Sharing (CLAMS) is located in Hyannis. There are 15 full members and 5 dial-up members (public, academic, and special). The vendor is DRA.
- Central/Western Massachusetts Automated Resource Sharing (C/W MARS) is located in Paxton. There are 43 full members and 23 dial-up members (public, academic, and special). The vendor is CARL. The operating budget is $763,867 (92% from members). Outputs in 1990 include 817,954 titles and 4,304,125 items with circulation of 3,308,525 items and 50,000 interlibrary loans.
- Fenway Libraries Online (FLO) is located in Wentworth Institute. There are 7 full members and no dial-up members (academic and special). The vendor is DRA. The operating budget is $180,000 (98.9% from members). Outputs in 1990 include 350,000 titles and 600,000 items.
- Metropolitan Boston Library Network (MBLN) is located in Boston. There are 7 full members and no dial-up members (public). The vendor is DRA. The operating budget is $439,065 (83% from members). Outputs in 1990 include 695,012 titles and 2,234,316 items with circulation of 4,716,311.
- Minuteman Library Network (MLN) is located in Framingham. There are 24 full members and 6 dial-up members (public, academic). The vendor is DRA. The operating budget is $631,609 (88% from members). Outputs in 1990 include 630,000 titles and 3,000,000 items with circulation of 4,800,000 items and 32,500 interlibrary loans.
- Merrimack Valley Library Cooperative (MVLC) is located in Andover. There are 24 full members and 11 dial-up members (public). The vendor is CLSI. The operating budget is $445,222 (87% from members). Outputs in 1990 include 531,423 titles and 1,730,042 items with circulation of 2,827,438 items and 22,175 interlibrary loans.
- North of Boston Library Exchange (NOBLE) is located at North Shore Community College. There are 22 full members and 3 dial-up members (public, academic, special). The vendor is CLSI. The operating budget is $378,900 (85% from members). Outputs in 1990 include 664,853 titles and 1,883,073 items with circulation of 2,054,300 items and 65,422 interlibrary loans.
- Old Colony Library Network (OCLN) is located at Massasoit Community College. There are 21 full members and no dial-up members (public). The vendor is DYNIX. The operating budget is $327,023 (84% from members). Outputs in 1990 include 270,000 titles and 935,000 items with circulation of 3,073,234 items and 11,143 interlibrary loans.
- Southeastern Automated Libraries (SEAL) is located in South Dartmouth. There are 12 full members and 4 dial-up members (public). The vendor is DYNIX. The operating budget is $291,436 (85% from members). Outputs in 1990

include 344,537 titles and 732,171 items with circulation of 802,361 items and 4,258 interlibrary loans.

- University of Lowell Collaborative (ULOWELL) is located at the University of Lowell. There are 2 full members and 3 dial-up members (academic and special). The vendor is DRA.

Another important resource sharing center is **The Boston Library Consortium** which serves a cooperative association of eleven academic and research libraries (including Boston Public Library and the State Library). It resides in the Boston Public Library. In particular, the Consortium provides mutual patron access to member institutions, publication of a Union List of Serials (80,000 titles), preservation projects, and professional development.

The Massachusetts Board of Library Commissioners (MBLC) might be considered a resource sharing center because of consulting and other services provided by its staff. There are certain consulting services that should be provided on a Commonwealth-wide basis, and it is appropriate for MBLC to provide such services. The MBLC also provides coordination of programs with and among school media centers, public, academic, special, institutional libraries, and libraries serving the handicapped. It is accomplished via representation on the State Advisory Council on Libraries, the Network Advisory Committee, through meetings with regional Administrators, representative groups and professional associations and through wide dissemination of information about LSCA programs.

In addition, there are many other formal and less formal library resource sharing activities taking place throughout Massachusetts. Resource sharing is also done through NELINET (OCLC), Research Library Network (RLN), Fenway Library Consortium, Worcester Area Cooperating Libraries (WACL), Southeastern Massachusetts Cooperating Libraries (SMCL), Boston Theological Institutes, Northeast Depository Library, Northeastern Consortium of Law Libraries, among others, and several informal groups of libraries formed to provide cooperative purchasing.

Librarians in the U.S have been particularly ingenious and generous in developing cooperative library systems and services. They have engaged extensively in "sharing resources" such as collections, staff, equipment, and systems, etc., to provide more extensive services or to perform operational activities better. Advantages of cooperation and resource sharing among libraries include achievement of economies of scale and/or better service provision. By economies of scale, we mean that some services or activities can be provided at less cost per transaction as the number of transactions involved increases. There are several reasons for economies of scale. First, when large fixed costs such as in purchasing equipment are spread over more transactions, the average cost decreases (e.g., the average automation cost per item circulated is less up to a point for two libraries than for the two libraries to have their own systems). Second, there are many instances where volume discounts can be negotiated with vendors (e.g., book brokers, bibliographic vendors, furniture, supplies, etc.). Third, some activities can be done in a production-like manner less expensively in large operations than in small ones (e.g., this is found to be true for ILL request

processing, cataloging, physical processing, etc.). Finally, it can be less expensive to share services of persons with special competencies (e.g., children's programming, automation expertise, accounting, grant preparation, etc.). On the other hand, there have been found to be disadvantages as well in cooperation, including unexpected costs, difficulties in getting participating libraries to agree on service provision standards, inevitable inequities (in that some cooperating libraries will, by necessity, provide more than others), the desirability of having a large library involved in order to achieve optimum economies of scale, reluctant local officials, and so on.

All things considered, there can be tremendous net economic and performance advantages in library cooperation. On the other hand, many librarians and local officials are not aware of the full range of potential cooperative services available and currently utilized by libraries in the U.S. Below is a listing of six basic types of cooperative library services and operational functions provided in Massachusetts and other states:

- Patron Access To Collections and Materials
- Reference and Research Services
- Library Operational Activities
- Outreach Services
- Consultant Services
- Continuing Education

A detailed listing under each type of service, the advantages and disadvantages of them and the extent to which they are provided are discussed below.

Patron Access to Collections

There are about 600,000 interlibrary loans done each year in Massachusetts. Libraries have found that is less expensive to borrow infrequently used materials (or those that have been lost or mutilated) than to purchase them. Library materials cost a great deal more than the purchase price alone. In fact, from the cost finding study, we find that staff costs involved in processing materials alone are more than that of the materials. Thus, a $20.00 book may actually cost the library $44.00 when staff time for processing is included. Because of their nature, small towns and libraries will infrequently use many materials and, therefore it is less expensive to borrow than purchase them. However, borrowing books or obtaining photocopies of articles is not inexpensive to either the borrowing or the lending library. A borrowing library must locate a source from which to borrow, sometimes do bibliographic verification, log-in and return the borrowed item. The lending library must process the request (and sometimes do bibliographic verification), see if it is available, obtain it from the shelf (and/or photocopy it), record the loan, package it, send it, and log-in and reshelve the item upon return. There must also be a mechanism for sending messages and materials as well. In Massachusetts, the cost finding study gives an average cost of borrowing an item as $6.30; the cost of lending as $2.30 (less than ½ the amount observed

elsewhere). There are other costs to the lending library as well. Sometimes access is denied to the library's patron because the item is out (5% of ILL's observed elsewhere) and some materials are returned damaged (1% of ILL's observed elsewhere). Also there is a cost to borrowing patrons in terms of delays. In Massachusetts, the patrons needed materials in less than two days 48 percent of the time and in two to five days 8 percent of the time, but the average elapsed time from request to receipt is 8.4 days. On the other hand, it is estimated that it would cost the borrowing library an average of $48 to purchase the item; the cost to the patron would be $20 and it would require an average of 33 minutes to go elsewhere. Thus, on balance ILL is a very useful and growing library service and should continue to be supported and enhanced in Massachusetts.

One potential difficulty is that there tend to be large "net lending" libraries. In fact, in Massachusetts, 651 libraries are "net borrowers," and 487 libraries are "net lenders" — some (11%) over 1,000 items per year. The total number of net loans is estimated to be about 80,000 for public libraries and about 110,000 for all the other libraries. A question arises as to whether the lending libraries should be compensated by the borrowing library or the Commonwealth. In fact, 9 percent of the loans are estimated to involve a charge ($6 on the average). Nationally, many academic libraries are adopting this policy.

In Massachusetts, about 1,000 libraries engaged in interlibrary borrowing (75% of public, 81% of academic, 33% of school, 54% of institutional, 73% of special). In particular, school libraries borrow far less than observed in "mature" ILL states such as New York, Pennsylvania, Wisconsin, etc. There is some degree of use of outside services for ILL request processing (e.g., 6% of public libraries use Regional services and 16% use automated network services). Interlibrary loan verification/location is also done by outside sources (e.g., 4% by Regional Public Library Systems and 24% by Automated Resource Sharing Library Networks). If all ILL processing, bibliographic verification, and fulfillment is done so that the critical mass is achieved, there would be a saving of about $700,000 to all types of libraries in Massachusetts.

Reciprocal borrowing and patron access to collections without circulation are extensively practiced in Massachusetts. Libraries allow registered patrons of participating libraries to borrow materials or to at least use them in the library. Resources involve the collections, staff (much less than ILL), shared catalogs or union lists, and photocopying equipment. Advantages are that (1) the "borrowing" library requires only a small collection and (2) compared with ILL, costs much less to both "borrowing" and "lending" libraries. Disadvantages include: (1) potential inequities among participating libraries, (2) burden to "borrowing" patrons, (3) potential denied use to "lending" library patrons, (4) damage to loaned materials and (5) problems with controlling and maintaining registration lists.

At the 1991 MLA Annual Conference, Roland Piggford reported that 279 municipalities reported 4.27 million loans to non-residents of a total of about 36.6 million circulations (i.e., 12% non-resident of the total). The total is over twice the amount estimated from a sample

in 1977 (1.9 million). Our estimate of circulation and non-resident circulation from the Input and Output Survey is 36.9 million and 4.5 million respectively. In addition to loans, we estimate from the public library Patron Survey that 17.2 percent of the visits to public libraries are by persons who do not live in the town/city where the library is located, and 10.6 percent of the visits are by persons who neither live nor work in the town. Thus, of the 27 million visits to public libraries, about 2.9 million are estimated to involve persons who neither live nor work in the town. These data seem to confirm the circulation data above. Circulation and reshelving costs (in labor) an average of about $0.34 per item borrowed. This per unit cost is low compared with other studies ($1.50). This amount is less for libraries using Automated Networks ($0.30) than those using in-house automation ($0.34) or that are not automated ($0.41). For non-automated circulation, the cost is $0.45 for less than 50,000 items circulated and $0.38 for more than that number; therefore, there appears to be some evidence of economies of scale.

An enhancement of patron access to collections through interlibrary loan or reciprocal borrowing is **cooperative collection development** among participating libraries. In such an arrangement, library participants agree that specified libraries should emphasize collections in certain subject areas to be shared among all libraries through ILL, reciprocal borrowing or patron access. Resources can include collection, staff, shared catalogs or union lists. The principle advantage is having a much better common collection than any one library could have. We have observed a number of instances in which cooperative collection development has been extremely successful. Disadvantages are: (1) difficulty in arriving at agreed upon "shared" collections and (2) sometimes perceived inequities. We have no data on economies of scale or savings that might be achieved. Only eight percent of the public libraries are said to engage in cooperative collection development (mostly through Automated Resource Sharing Networks). About an equal number expressed an interest in participating in this form of resource sharing.

Some cooperatives maintain special collections (e.g., classics, children's books, etc.) that are rotated periodically from library to library. Resources are the rotating collection (and other materials such as art, AV, etc.), staff, delivery equipment, etc. The advantage is that small libraries (or reading centers) can provide materials not otherwise possible. Disadvantages are: (1) cost of maintaining and distributing the rotating collections and (2) limited time each library has the materials. Elsewhere, it is estimated that rotating collections cost about $2.00 per item to maintain or about $380 per library. We do not know the extent to which rotating collections are used in Massachusetts, although it is understood that some bookmobiles are used in this way.

Reference and Research Services

This class of service includes: manual searching of reference material and printed bibliographies, automated bibliographic database searching, automated numeric and other database searching, referral searching services, research analysis services, job information and

services for patrons. These services are usually provided by cooperatively "centralized centers" or large designated libraries that have special resources such as staff with specific reference competencies, extensive reference collections, online search capabilities (i.e., vendor passwords, terminals, etc.), CD-ROM equipment, and so on. Usually only difficult queries are referred to the centralized centers. Contact is usually made by a librarian, but patrons could go to the centers or call them as well. Sometimes patrons are sent copies of materials, although bibliographic citations or answers to specific questions are more common. Advantages are that requests can be handled at less cost and usually with better quality. Disadvantages include: (1) delayed responses, (2) less direct contact with patrons, and (3) cost to providing libraries. There is a definite economy of scale for these services and it is believed that the quality of the services must also increase as the size of reference collections increase and the ability to use reference librarians with greater competency increases. Public libraries indicate they use reference services to some degree: 39% for manual searching (mostly Regional services), 27 percent for automated bibliographic database searching (mostly Automated Resource Networks), 17 percent for automated numeric and other database searching (mostly vendors), and 5 percent for referral searching.

Outreach Services

These services generally involve small populations or groups of patrons who have difficulty using library services by virtue of distance, immobility, institutionalization, or physical, mental, or language impairment. These outreach programs involve special services to: inmates in correctional institutions; patients in hospitals, mental institutions, or nursing homes; citizens in remote or sparsely populated areas; homebound citizens; citizens with impairments (e.g., deaf, blind, or physically handicapped); and non-English-speaking citizens. Cooperation involving these services is often done from a centralized center or library that serves the geographic area of a group of libraries. Persons who have difficulty visiting libraries are served by books-by-mail, bookmobiles, and similar services. Citizens with impairments and non-English speaking persons are served by having specialized (infrequently used) materials or facilities in a single, reasonably accessible location. Resources shared to provide the services include special collections and equipment, staff, mailing or bookmobile facilities, a library with entrance ramps, elevators, and other such facilities. The principle advantage of sharing such resources is economic and the principle disadvantages are placing some burden on patrons (to go to a central library) and inequities among participating libraries.

Library Operational Activities

Many operational activities lend themselves to cooperative and resource sharing for smaller library operations. Typical activities include:

- collection development (for each participating library,
- acquisitions or ordering,
- cooperative purchasing,
- materials examination,

- ongoing cataloging,
- retrospective conversion,
- catalog production,
- union list production,
- physical processing,
- conservation and/or preservation,
- circulation control,
- request processing, bibliographic verification, etc. for interlibrary loan,
- delivery services for interlibrary loan,
- mail delivery,
- facsimile equipment,
- electronic mail, bulletin boards, and other networks,
- record keeping for participating libraries (e.g., accounting, payroll, billing, etc.,
- public relations through print products such as posters, signs, pamphlets, exhibits, etc.,
- PR through newspaper articles,
- PR through radio and television programs and spot announcements, and
- evaluation and user studies

Many library operational activities, such as those above, can be done more economically and/or better with large operations. Thus, in other states, they are often performed in a centralized center or large library. These cooperative operational activities involve combinations of shared resources such as staff, equipment and systems, facilities, etc. The advantages include less cost (sometimes substantially less and/or better quality and timeliness). Disadvantages are: (1) loss of direct control over the activities, (2) need to involve a large library to ensure optimum economies of scale, (3) potential inequities, and (4) need to establish an incentive or reimbursement to the providing center or library. A brief description, economies of scale (if relevant), and extent of current cooperation for some of these services are given below.

Collection development (for participating libraries) may be done by cooperative services for specific library members. It encompasses those activities which relate to or impact on the development of library collections of the library member, including determining selection policy, assessment of user needs, collection evaluation, selection of materials, etc. It includes providing pre-selected "buying lists." About six percent of the public libraries indicate they get some outside support for collection development.

Acquisitions or ordering involve systems used for obtaining library materials (books, periodicals, equipment, and other materials), through purchase, exchange, or gifts. This includes preorder bibliographic searching, ordering and receiving materials, processing invoices, and the maintenance of the necessary records related to acquisitions. We observed economies of scale from studies, but not in the cost finding study in Massachusetts. Elsewhere, economies of scale were observed for having fewer or more than 5,000 observations ($3.54 for less than 5,000 and $1.80 for more than 5,000 items acquired). The average labor cost for the libraries participating in the cost finding study is $2.48 for labor.

About 30 percent of the public libraries indicate they got outside support (mostly vendors such as Baker and Taylor).

Cooperative purchasing represents agreements used to purchase goods and equipment and maintenance services which are "mass" purchased, leased, or rented through written agreements, usually at discounted rates, and shared by the library system and its members. This includes the purchase of books, periodicals, microforms, and audiovisual materials which are utilized by cooperative services, members, or both. It also includes shared equipment such as projectors, fiche readers, and reproduction and computer equipment, in addition to administrative and library supplies. Economies of scale are achieved because of discount rates that can range from 20 to 50 percent, depending on the type of vendors involved and size of orders. Well over one-half the public libraries indicate they currently get outside support for this service including materials, equipment, etc. Several informal groups of libraries have formed across the Commonwealth to do cooperative purchasing of library materials.

Ongoing cataloging includes those activities performed by staff of cooperative services and/or library members, or other outside personnel, in preparation of bibliographic records for a catalog. Most cataloging done by outside sources involves automation. About 37 percent of the libraries indicated they use outside sources (mostly Automated Resource Sharing Networks).

Physical processing activities are carried out by a library or cooperative services, processing center, or others, to prepare items for use. For example, physical processing of books includes jacketing, affixing labels and pockets, ownership marking, etc. Very few libraries use an outside source for physical processing except for vendors (21%). There are economies of scale: $3.70 below 10,000 items and $0.80 above that amount. In the cost finding study, average labor cost was $2.11 but no economies of scale appeared.

Circulation control involves the service/activity of lending, which includes those activities connected with charging or discharging items and maintaining records borrowed from the library or other collections. In a cooperative service environment, it includes the use of shared computer-based circulation systems, either shared by a cluster of libraries with cooperative service headquarters facilitation, or provided directly and entirely by headquarters to libraries. Thirty-one percent of the libraries receive this service, mostly from Automated Resource Sharing Networks.

Delivery services involves items delivered or sent including letters, delivery envelopes, packages, packets of materials (e.g., printed book-marks), and so on. Includes: (a) all staff personnel based at libraries or cooperative services who deliver materials to headquarters and/or its members in support of cooperative service activities and administration on a regular basis; (b) all delivery services, such as professional courier companies and airline couriers that support library or cooperative services. They also include delivery services which are cooperatively purchased between members or between members and headquarters of

cooperative services. There is a real ambivalence concerning ILL delivery services in Massachusetts. About three-fourths say they receive such services. A number of respondents to surveys and interviews indicated their dire need for the service, but disappointment at the current service.

Consultant Services involve a person (or persons) with very special competencies who visits participating libraries on a regular or scheduled basis. In some places, they are referred to as "circuit riders." Examples range from a person who regularly conducts children's programs or a library administrator who regularly visits small libraries or reading centers that do not have a professional librarian. Other consulting includes outreach, automation, public relations, grant preparation, building construction, etc. The principal advantage is that small libraries can utilize expertise that otherwise would be unavailable to them or too expensive for them on a full-time basis. The principal disadvantage is the cost of travel and time required.

Continuing Education includes: workshops for participating library staff; workshops for trustees/board/council members; workshops for patrons, administrators, faculty, etc.; adult continuing education; shared professional collections for library staff; shared professional collections for other professional groups; and other special programs and meetings. These services involve arranging and conducting special programs for library staff and others. The advantage is that a group of libraries can afford better programs than a single library. The disadvantages are: (1) establishing programs that are of interest to all participating libraries and (2) making the location equitable in distance.

SECTION 4

RECOMMENDATIONS

4.1 Resource Sharing

One of the main problems in developing library resource sharing cooperatives has been the political and jurisdictional diversity of existing cooperatives in their multiple forms, and in the tension created by an attempt to forge unity and centrality out of a tendency towards multiplicity and decentralization. This tension has created a fear of possible loss of local autonomy, a reluctance to participate in reciprocal arrangements, and questions regarding the mutual benefits and reciprocal burdens. The most immediate factor in the minds of many library funding authorities, when considering the sharing of library resources through cooperative arrangements, is the potential financial savings, rather than the sharing of resources for other purposes. Such governing institutions are often reluctant to provide funds at the start of such ventures when return-on-investment and financial savings seem far removed. The important point here is that resource sharing activities should be efficiently structured and coordinated so as to benefit participating libraries enough to make it worth their participation. To do so within current political and jurisdictional contexts, it is essential for leadership to foster and coordinate cooperative channelling of current and new resources to participants in order to ensure their maximum use of these resources.

Successful development of multitype library resource sharing, and optimization of the benefits associated with such sharing, requires coordination at the state level of resource sharing plans and activities. However, because of the general trend towards decentralization and distribution and because of existing cooperative activities in Massachusetts, we recommend that:

> **RECOMMENDATION 1:** Statewide resource sharing should be based on the coordination and encouragement of a variety of resource sharing activities between and among all types of libraries across the Commonwealth.

These activities will provide the means for offering more effective and/or efficient library services to Massachusetts residents and workers.

We further recommend that:

RECOMMENDATION 2: The role of the Massachusetts Board of Library Commissioners should be as a coordinator of cooperative initiatives and supporter of activities and services which would benefit the entire Massachusetts library community.

MBLC should also ensure that all libraries in the Commonwealth have mechanisms available to them through which they can participate in resource sharing activities.

In Massachusetts, legislation and precedents exist to promote and support the cooperation among all types of libraries throughout the Commonwealth as the responsibility of the MBLC. For years, the MBLC has had the responsibility to allocate funds to assist libraries in preparing for automation and in supporting cooperative activities among libraries. The Automated Resource Sharing Networks are an example of this. The MBLC staff also assists libraries throughout the Commonwealth in applying for these and other funds.

In reviewing the development of statewide multitype library resource sharing structures in other states, most are divisions or projects of their respective state library agencies. Resource sharing activities have evolved in these agencies from involving public libraries only, to multitype activities. In those instances where the structure includes one or more independent not-for-profit organizations (for example, Connecticut's Cooperating Library Service Units or Florida's Regional Library Cooperatives), funding is still provided by the state. Furthermore, even when "independent" organizations are established, they remain intimately related to their state library agencies.

Based on these precedents and on consideration of possible alternatives, we recommend that:

RECOMMENDATION 3: An Interlibrary Cooperation group should be established within the MBLC to assume responsibility for coordinating library cooperation in the Commonwealth.

The MBLC should have primary responsibility within the Commonwealth for fostering and supporting cooperative efforts among all types of libraries and should function as communicator and coordinator in the evolving cooperative efforts.

To provide input to cooperative developments it is further recommended that:

RECOMMENDATION 4: The Network Advisory Committee should be expanded, or a new Advisory Council formed, to include representation of all cooperative resource sharing efforts (i.e., not just automation). The purpose of the Council is to ensure that the interests and concerns of the entire Massachusetts library community are incorporated into planning future cooperative efforts.

The expanded council should have a broad representation of libraries throughout the Commonwealth. It is in the best interests of the statewide resource sharing structure that representation on the council be as broad-based as possible, involving libraries of all types and sizes, from all geographic areas of the state, and all library cooperatives, networks, consortia and professional groups in Massachusetts.

In addition to this broad-based council, we recommend that:

RECOMMENDATION 5: A Massachusetts Library Resource Sharing Policy Board should be established to specifically address resource sharing issues. Their recommendations would be forwarded to the MBLC for final ratification and approval.

Board members (a significantly smaller group than the Council) should be appointed for staggered terms from the membership of the Council. The MBLC should retain a permanent representative on the Policy Board. The Board should make policy decisions regarding statewide resource sharing developments, based on input from the Council.

This two-tiered approach to the development of resource sharing activities has the advantage of ensuring representation from all segments of the Massachusetts library community in the development process, as well as providing a policy setting group of manageable size. It is anticipated that the Council will have a large membership and that the Board should not exceed ten members.

Library resource sharing and cooperation in Massachusetts have changed in character over the last ten years, largely due to increased use of automation. There is clearly an overlap in the services provided by the Regional Public Library Systems and the Automated Resource Sharing Networks and, to a lesser degree, between these entities and (1) the Library of Last Recourse and (2) the MBLC. These overlaps are mainly in interlibrary lending (request processing and bibliographic verification) and some operational activities (reference referral and cataloging). Expansion of resource sharing activities will make the distinction even more

unclear because more and more operational activities will become available through automation. Resource sharing activities fall into six main categories: access to collections (interlibrary loan, direct reciprocal borrowing and/or in-library use); reference and research services (reference referral, database searching, research and analysis); library operational activities (acquisitions, cataloging, circulation); outreach services to homebound citizens, inmates, patients, etc.; consulting (children, outreach, automation, management); and continuing education (workshops, shared professional collections). These activities are currently supported by multiple organizations in an uncoordinated way to a large extent. For the public libraries much of the coordination is performed at the Regional level with providers at the Regional, Subregional and Network levels. With the expansion of library resource sharing activities to include all types of libraries, we believe that coordination might best be met within geographic areas that are smaller than the existing regions in order that environmental and attitudinal differences in Massachusetts be accommodated and local needs and autonomy supported and preserved.

To this end we recommend that:

RECOMMENDATION 6: The three current regions should be replaced with six to twelve "Library Cooperatives" to offer an integrated range of resource sharing services to all libraries in their area. Such services would include access to collections, reference and research, automation services, operational services, delivery, outreach, consulting, continuing eduction among other services. Basic funding for the Library Cooperatives should come from the Commonwealth (MBLC) and the remaining funds should come from cost recovery of services used by member libraries.

These Library Cooperatives will be multitype library organizations formed for the express purpose of interlibrary cooperation. They will consolidate the resource sharing services now provided by the Regional headquarters, Subregional libraries, and Automated Resource Sharing Networks. This does not necessarily mean that the Library Cooperatives will provide these services themselves; rather, they will coordinate access to services for their members. They may, for example, contract with member libraries and/or the Automated Resource Sharing Networks for services. They may contract with other vendors and service providers as appropriate. They may also substantially expand upon existing services by offering or arranging for new resource sharing services and by adding new libraries.

At a minimum, the Library Cooperatives should provide and/or arrange for all libraries falling within their areas who wish to participate (1) access to collections and materials (interlibrary loan, direct reciprocal borrowing and/or in-library access) and (2) reference and research services (reference referral, database searching). Other resource sharing services to be considered are cooperative operational activities automated and non-automated, outreach, continuing education, and consulting. We emphasize again that each Library Cooperative does

not have to be the provider of services, but that all cooperative services should be coordinated through the Library Cooperative. Note also that the range of services provided and the mechanisms used to provide the services may vary substantially from one Library Cooperative to another to accommodate the different needs and priorities of libraries in different areas of the Commonwealth.

The degree and participation of all types of libraries in the Library Cooperatives will be dependent on the sources and amounts of funding available, the desire to participate, incentives to participate, and willingness to pay for some services. At a minimum, all types of libraries should participate in cooperative programs for access to collections. This means that a minimum requirement for participation in a Library Cooperative is a willingness to make the collections and materials available to other member library users. Some libraries may participate in interlibrary loan arrangements, others in direct reciprocal borrowing arrangements and in-library access.

All libraries in the Commonwealth should be eligible for participation in Library Cooperative activities regardless of type, size, geographic location, or level of participation in other cooperative activities. Participation in Library Cooperatives will not preclude membership in other library cooperatives and networks at the national, state or local levels.

All libraries in the Commonwealth will be eligible for all levels of participation in cooperative activities. A number of service offerings will be developed by each Library Cooperative, and libraries will be able to choose the extent of their participation by selecting specific combinations of services. A list of potential services is provided in Section 3, and advantages and disadvantages of the services are discussed at length in Section 7 of the **Technical Report**.

The Library Cooperatives are the ultimate responsibility of the MBLC. Library Cooperatives should be accountable to MBLC as well as to their boards and their members. Current Regional Administrators should be responsible for developing plans to implement Library Cooperatives in their regions, including non-public libraries, (although Library Cooperatives could cross the existing regional boundaries) into full operation by 1994.

One of the key issues facing the development of a statewide, multitype library resource sharing structure in Massachusetts is how to evolve from the structure in place today to the structure envisioned. The ideal structure is a set of geographically defined Library Cooperatives, which together cover the entire Commonwealth, and which offer a variety of interlibrary cooperative services in a cost-effective manner according to the needs and priorities of its member libraries. The structure in place today includes the Regions (serving public libraries), Subregional libraries (public libraries which provide certain services, mostly reference and interlibrary loan request processing to other libraries in their regions), the Automated Resource Sharing Networks, and several other formal and informal cooperatives. The new structure can evolve through a replacement of existing structures by new multitype

structures, or through the evolution of existing structures into the Library Cooperatives. It is possible, for example, that a Region could expand its services to all types of libraries within its geographic area. Similarly, an Automated Resource Sharing Network could expand the services it offers beyond the shared automated system services, as several already do. A Subregional library could be the nucleus for a Library Cooperative by expanding the range of libraries served and by expanding the services offered. We have not recommended exact numbers or geographic areas for Library Cooperatives. We believe that the exact configuration of Library Cooperatives should be determined by the Massachusetts library community itself. However, there are some criteria that should be used to guide the determination of which group of libraries might constitute a Library Cooperative:

- There must exist within the proposed Library Cooperative a core reference collection and a core non-fiction collection which is reasonably close to member libraries and their users. Note that over time the need for physical proximity to a reference collection will be less important; similarly, as delivery systems evolve statewide, the need for proximity to any specific collection will be less important.
- There must be sufficient activity related to a core of services to reach a "critical mass" and achieve optimum economies of scale. (See Section 7 of the **Technical Report**.)
- There must be sufficient activity to justify a full time director.
- The Library Cooperative must be small enough to have a manageable governance (i.e., not more than 200 library members).

Examples of economies of scale are given as follows:

Interlibrary Lending and Borrowing (based on a compilation of data from 4 state-wide studies and a national survey of libraries)

Number of Transactions	Average Cost	
	Lending	Borrowing
Less than 1,000	$13.50	$8.50
1,000 - 2,500	8.50	6.00
2,500 - 5,000	5.70	3.70
5,000 - 10,000	4.40	2.80
Over 10,000	4.10	2.40

In both borrowing and lending the "critical mass" appears to be at about 10,000 transactions.

Automated bibliographic database searching (based on data from 3 state-wide studies)

No. of Transactions	Average Cost
Less than 50	$33.50
50 - 100	28.50
100 - 500	21.10
Over 500	20.90

The "critical mass" appears to be about 500 searches.

Acquisition or ordering (based on 1 state-wide study)

Average cost for fewer than 5,000 items - $3.54
Average cost for more than 5,000 items - $1.80

One suggested configuration which might be used as a starting point for discussion of a multitype library resource sharing structure in Massachusetts is as follows:

- The Western Region become a Library Cooperative.
- The Central Region could become one or two Library Cooperatives based around Worcester and Fitchburg.
- In the Eastern region, several Library Cooperatives would be formed, based on the similar automated systems used by the automated resource sharing networks in contiguous geographic areas. This would result in the following Library Cooperatives in what is currently the Eastern region:
  - one or more from ABLE, OCLN, SEAL (all utilizing the DYNIX system)
  - CLAMS (all utilizing DRA system, but not contiguous with other DRA networks)
  - one or more from Metro-Boston, MLN, FLO, University of Lowell (all DRA)
  - MVLC, and for NOBLE (both utilizing the CLSI system)

In this suggested configuration, the Library Cooperatives could arrange for libraries currently in the Western and Central regions to continue to have their automated services provided through C/W MARS. We recognize that the automated resource sharing networks as currently configured do not have the capability to expand indefinitely because of hardware and/or software limitations. Over time, additional automated systems will be needed to support the newly automating libraries. However, since there is no requirement that Library Cooperatives provide each service or set of services through a single provider, we do not see the need for additional automated systems as a problem. There is a great deal of flexibility built into our recommendation. This is done purposely as we have found that cooperative efforts developed from the grass roots level are much more likely to flourish than those with very rigid requirements imposed from the top down.

An example or model is given below for a typical Library Cooperative. Such a Library Cooperative might consist of the following members:

- 30 public libraries
- 10 academic libraries
- 25 school systems representing about 100 school libraries
- 20 institutional libraries
- 50 special libraries

There are 135 or 210 members depending on whether school library membership is based on school systems or school libraries. We believe that any more members would become unwieldy. A typical Library Cooperative of this size might provide the services described below.

The core resource sharing services include interlibrary lending (ILL) and reciprocal borrowing. All member libraries in the geographic area covered by the Library Cooperative can participate in interlibrary lending and reciprocal borrowing among the area members as well as with libraries outside of the area. Both ILL and reciprocal borrowing will be enhanced by an automated union catalog of holdings of books and a union list of serials (of at least the larger libraries). Large libraries can access the holdings online, medium size libraries by dial-up, and smaller ones through a request processing center at one or more designated large libraries. The request processing center will also forward requests outside of the area when necessary (e.g., to the Library of Last Recourse). Both request processing (e.g., bibliographic verification) and request fulfillment should be done by larger libraries in the area when possible in order to achieve economies of scale. Net lending (by interlibrary loan and reciprocal borrowing) should be reimbursed by the MBLC (see next paragraph). The coordination of mutual access to collections will be done by the Library Cooperative Director and a committee of members. The Library Cooperative will also be responsible for determining optimum automation methods (e.g., central computer, CD-ROM, etc.) and delivery mechanisms (e.g., vans, courier, facsimile, etc.) depending on amount of interlibrary lending and other transmitted items. ILL request processing and screening to identify holdings for reciprocal borrowing can be enhanced through facsimile transmission or electronic mail.

There are estimated to be 190,000 net interlibrary loans in Massachusetts. Thus, one might expect there to be about 19,000 net loans by libraries in this typical Library Cooperative. One might also expect about 50,000 items circulated through reciprocal borrowing agreements. If reimbursement/compensation is about $6.00 (per ILL) and $1.50 per reciprocal borrowing transaction, the total amount would be about $190,000. This amount would be provided through the Library Cooperative utilizing an annual state appropriation administered by the MBLC.

Another core service of the Library Cooperative is reference referral. One or more of the member libraries should be funded to support a strong reference collection and staff which can serve all types of member libraries. The funding for this reference center should come

from the MBLC through the Library Cooperative. That is, the Library Cooperative should request funds from the MBLC and administer a contract with one or more member libraries. We believe that such shared resources should be in the $150,000 to $200,000 range, considering the number of libraries and patrons involved. Thus, state funds would support reference and research services and the Library Cooperative would request and administer the funds to be paid to the providing library or libraries.

There would be a shared automated system (like the current Automated Resource Sharing Networks) that would provide a range of possible services including:

- Circulation control would be provided for public, academic and school libraries for which it is economically and operationally feasible. This system and the bibliographic records would serve also as a basis for interlibrary lending and reciprocal borrowing mentioned above.
- Cataloging (original and upgraded) can be provided for those libraries that wish to pay for it. Catalog cards can be produced for libraries that need them.
- The libraries can have Online Public Access Catalog for their patrons.
- Other automated modules can include acquisitions, interlibrary loan, and record keeping. Every library can take advantage of these modules online (large libraries) or through the request processing center.

The initial development and upgrade costs for the automated system can be obtained from MBLC. Ongoing operation would be funded by users through a combination of membership fees (to cover administration and fixed costs) and unit charges (to cover variable costs). Membership fees may vary to reflect size of library and type and amount of service. Unit charges would reflect average costs related to such factors as number of ports, number of transactions, number of bibliographic records, items cataloged and so on. Ultimately the service should be fully cost recovered and should contribute some (i.e., proportionately) to the cost of Library Cooperative administration. The cost of automation might be in the $800,000 range, to be recovered by member fees and unit charges. The automated system can reside at the Library Cooperative Headquarters, a large library, or elsewhere (e.g., C/W MARS could serve two or more Library Cooperatives in the same way it serves libraries in two Regions). A Library Cooperative could also have more than one automated system (shared or otherwise).

The Library Cooperative should offer to provide or provide access for all member libraries to the following services:

- cooperative purchasing,
- acquisitions and ordering,
- cataloging (mentioned above), and
- physical processing.

A large member public, or other type of library, may have sufficient volume to help collectively achieve a "critical mass" and optimum economies of scale for these activities. If not, a

Processing Center can be established at the Library Cooperative Headquarters or at a large library to provide the services. A small public library, for example, can place orders with the Processing Center and receive back a fully cataloged and processed (i.e., shelf-ready) book. For some services, some types of libraries such as school, institution, or special may not have sufficient volume to reach a "critical mass." For example, all the school libraries in a local area may not have enough transactions to reach a critical mass. If not, the Library Cooperative Processing Center can arrange to negotiate with an agreed upon vendor/supplier in order to provide economies of scale for these small libraries. Either way, small libraries can obtain processed materials at significant savings (as much as one-fourth the cost compared to their current in-house costs). These services should ultimately be fully cost recovered, although initial cost of developing the Processing Center can be funded by MBLC. The total amount of these services might be expected to be in the $900,000 range for the number of libraries involved (based on experience in other states).

The Library Cooperative should also offer other operational services to member libraries such as record keeping; public relations through print products (e.g., poster signs, pamphlets, etc.), placement of newspaper articles, and placement of radio and television programs and spot public service announcements; and evaluation and user studies. These services, if requested by enough libraries to be provided, should be fully cost recovered on a per unit basis and, therefore come from local funds of users. These services might be in the $50,000 range.

Delivery services would include delivery of interlibrary loans and other items involved in Library Cooperative services (e.g., outreach deliveries, catalog cards, processed books, public relations materials, etc.). Based on number of libraries and the mix of services, deliver costs for this typical Library Cooperative might be in the $100,00 range. These funds should be provided by the Commonwealth (MBLC) because of the broad nature of the services.

The Library Cooperative should also offer to provide outreach services such as rotating collections, books-by-mail, or bookmobile to inmates in correctional institutions; patients in hospitals, mental institutions or nursing homes; homebound persons; and persons in remote or sparsely populated areas. The Library Cooperative should also offer to arrange support of literacy programs for persons with impairments and non-English-speaking persons. These outreach services should be funded by the MBLC. Such outreach should be about $80,000, based on experience elsewhere.

The Library Cooperative will offer consulting services to small public libraries for children's programs, youth services, general programs, etc. They will also offer consulting services to all types of libraries for general automation and systems, library administration, public relations, etc. If there is sufficient demand, the Library Cooperative may hire a part-time or full-time consultant. Otherwise, it will arrange for a consultant (from the area, MBLC or elsewhere) or provide referral to consultants. These services should be fully paid for by the using libraries on a per hour or per visit basis and billed on a monthly or less frequent basis.

The total amount could be of the order of magnitude of $300,000, although some of the sparsely needed services such as consulting involving construction grants, preservation, and so on should continue to be provided by MBLC staff (about $50,000 for this Library Cooperative).

Finally, the Library Cooperative should provide workshops for member library staff, trustees or board members, etc. These workshops should ultimately be fully cost recovered by attendees (i.e., their libraries). Staff from small libraries can also be supported through shared professional collections, paid as part of member fees. The total would be about $80,000.

The Library Cooperative should be established as a not-for-profit organization. It should have a full-time director, additional staff as needed, a governing board (consisting of representatives from member libraries and representative of all types of member libraries and at least two professional lay members with legal and financial backgrounds) and advisory committees in areas of interest to the members. Examples of committees that might be formed include membership, service areas (one or more committees), legislative, etc. The Library Cooperative should, if at all possible, be housed independently of a member library to overcome the problems of potential conflict of interest that seem often to arise when facilities and sometimes staff are shared between a cooperative organization and a member library.

Staff of the Library Cooperative would include a Director, a secretarial assistant, and support staff to provide services as mentioned above. The Director should be chosen by the Board, which should be established initially by interested libraries with support from the Regional Administrator. Initial funding would be from MBLC to prepare a grant request based on a three-year plan. The total costs above come to about $2.7 million. One should add to that at least $250,000 for administration and overhead, recognizing that many of the services merely involve pass-through funds. This expense should be funded by MBLC since much of the administrative activities serve all member libraries, but to a degree that is difficult to discern.

Looked at in another way the costs can be recovered in the following ways:

Service	MBLC	Unit Charges	Fees	Total
Access to collections ($000)	$190	-	-	$190
Reference and research ($000)	$200	-	-	$200
Automated services ($000)	-	$600	$200	$800
Operational services ($000)	-	$900	-	$900
Delivery	$100	-	-	$100
Other ($000)	-	$50	-	$50
Outreach ($000)	$80	-	-	$80

Service	MBLC	Unit Charges	Fees	Total
Consulting ($000)	$50	$250	-	$300
Cont. Ed. ($000)	-	$80	-	$80
Admin. & OH ($000)	$250	-	-	$250
TOTAL ($000)	$870	$1,880	$200	$2,950

The cost recovery involves three basic mechanisms: MBLC, unit charges from members and a per member fee. MBLC would pay all or a part of six types of services.

- Access to collections would involve unit payments for net ILL and reciprocal borrowing. The amount would be determined annually on the basis of all net lending in the Commonwealth, but the Library Cooperative would serve as a pass-through agency for the funds.
- Amount of funds for reference and research services should be determined by an equitable formula and funds requested by grant (perhaps biennially) from the Library Cooperative.
- Delivery and outreach funds would be based on need in the local area and funds also requested by grant.
- Administration and overhead could be based on a proportion of overall budget or by type of line item on the budget (i.e, staff, systems, vendor contracts, etc.). One can argue that staff and systems require more administration and overhead than vendor contracts or contracts to member libraries.

The fees and unit charges are revenue paid by member libraries. Fees are charged to recover fixed costs associated with automated services and unit charges are full-cost recovery for services provided or arranged by the Library Cooperative.

Public libraries would receive essentially the same services they now do from a combination of Regional and Automated Network services. However, small public libraries have the opportunity to participate in such shared services as outreach, consulting, cooperative purchasing, acquisitions, cataloging and catalog production, physical processing, and other operational services, if they so choose. Private and publicly funded academic institutions would likely participate in shared automated services and access to collections (where net lenders are reimbursed). School libraries and their patrons (students, faculty, etc.) would have access to collections and reference and research services. Larger school libraries might participate in automated services and all of them in operational services. In particular, school libraries (just as small public libraries) can order materials and receive them fully processed. Institutional libraries could benefit from access to collections, reference and research services, outreach and consulting. Special libraries and their patrons could benefit from access to collections, reference and research, and automated and operational services on a member and unit charge basis. The point is that every library in the local area would have an opportunity to utilize any of the services depending on size, cost of services and

need. The one difficulty is that the Library Cooperative must be able to indicate advantages of services (e.g., the cost to provide a service to a given library) and the library must know enough about its cost to make an economically rational choice whether to use the service or not.

4.2 Library Automation and Networking

The Automated Resource Sharing Networks have evolved independently and offer a range of services (discussed in Section 2). Four different vendor automated library systems are installed in the networks: CARL at C/W MARS; CLSI at MVLC, NOBLE; DRA at CLAMS, FLO, METRO-BOSTON, MLN, U-LOWELL; Dynix at ABLE, OCLN, SEAL. Each of these systems offers a set of applications modules which may include acquisitions, cataloging, circulation, online public access catalog, authority control, serials control, reserve book room, media booking, and interlibrary loan.

The automated resource sharing networks do not include all the Massachusetts libraries that are automated, nor do they support all the automated library functions that Massachusetts libraries have implemented. Overall, the input/output survey of Massachusetts libraries indicated that approximately 41 percent of Massachusetts libraries use some form of automation. The proportion of each type of library that is automated, however, varies substantially. Academic libraries and private institutional libraries are leaders in automation. Overall, 83.8 percent of academic libraries and 72.7 private institutional libraries use some form of automation. Note that the public higher education libraries are the most automated (92.3%) even though they fall behind in many other resource areas. About 51.5 percent of special libraries, 45.5 percent of public libraries and 30 percent of school libraries use some automation. Finally, only 10 percent of the public institutional libraries use automation. With the exception of the academic libraries, these statistics fall short of what we have observed in other states and through national studies of library automation.

The types of function automated also vary by type of library as indicated by the data reported by libraries in the Input and Output Survey. Academic libraries tend to use automation for cataloging (83.8%; 92.3 Massachusetts Public Higher Education Institution Libraries - MPHE), circulation (70.3%; 84.6% MPHE) and interlibrary loan (70.3%; 49.3% MPHE). Public libraries tend to use automation for circulation and interlibrary loan (45.5%), microcomputers for patrons (38.0%) and reference (38.0%). School libraries tend to use automation for microcomputers for patrons (30.0%), CD-ROMs for patron access (27.4%) and reference (22.1%). Special libraries use automation for reference (51.5%) cataloging (42.4%) and interlibrary loan (39.4%). Private institution libraries tend to use automation for interlibrary loan, reference and electronic document delivery/facsimile (72.7% each) and microcomputers for patrons (63.6%). The public institutions tend to use automation for reference, interlibrary loan and circulation (10% each). It is noted that by "tend to use" we mean a larger portion of the libraries report they use automation for these purposes. Obviously some public libraries, for example, depend heavily on automated circulation, however most

do not because of their size. Unfortunately, there is no simple answer to what size a library should be to take advantage of automated systems. Too many factors enter into the equation, such as what other automated modules will be used once a bibliographic database is created, how many libraries are involved in sharing, and so on. However, evidence does suggest that a PC or terminal and a communications modem is less expensive for small libraries to gain access to other collections than CD-ROM.

Two main issues related to automation and networking emerged during this study. the first issue concerns the potential linking of the automated networks. The second issue is concerned with access to databases beyond the online catalogs.

If we take the automation of circulation and online public access catalogs as indicators of the number of libraries using automated systems which might be candidates for linking, there would be 672 libraries using automated circulation systems and 293 libraries with or with access to online public access catalogs. The automated resource sharing networks account for 253 libraries. Thus, there are potentially up to an additional 419 automated library systems which could be linked as well as the 11 networks.

The potential for linking all of the automated library networks has been discussed over the last few years. Several approaches have been suggested and/or formally proposed. Most recently, a proposal was submitted to MBLC for 1990 LSCA funds for a linking project based on the Irving Library Network. The Irving system is a software package which provides a transparent interface among various integrated library systems. The cost-effectiveness of this approach to linking and in particular the performance in terms of response times for boolean searches have been questioned and is not considered to be appropriate.

For many years, the Irving software was the only transparent linking solution available to libraries, i.e., the only linking approach that did not require the user to master several query languages. Most recently, an alternative approach has evolved. This is based on the "open systems" concept. The Institute of Electrical and Electronics Engineers (IEEE) defines an open system as one which will allow software to (1) be transferred across a wide variety of systems with minimal change, (2) interoperate with other applications on local and remote systems, and (3) interact with users in a way that facilitates portability. Work is well underway to implement the concept of "open system". The American National Standards Institute's (ANSI) Z39.50 standard and the International Organization for Standardization's (ISO) Open Systems Interconnection (OSI) standards are in the process of being drafted, tested and implemented. Each vendor complying with these standards will allow their respective systems to interact with each other in a way that is essentially transparent to the user. While the OSI standard is generic in nature the ANSI Z39.50 standard is specific to library systems. It will enable library staff and users to query remote automated library systems using the user interface and query language familiar to them in their own local library system. This means that they will not have to learn different commands for every automated library system they might wish to search, even if the other systems use software and hardware from other vendors.

Other developments in linking approaches have resulted from moves at the federal level to develop and implement a National Research and Educational Network (NREN). This effort involves expanding an existing worldwide infrastructure on interconnected computer networks - the Internet. The vision of NREN is of an interconnection of the nation's educational infrastructure to its knowledge and information centers, including libraries. Several components on Internet/NREN are already in place in Massachusetts. The Regents' Computer Network is evolving into MassNet (a public education network) which, in turn, links to the Internet. There is potential to link the automated library networks to existing portions of MassNet. This is similar to the networking approach taken in Florida using the Florida Information Resources Network (FIRN) as the underlying data communications network.

It is recommended that:

RECOMMENDATION 7: MBLC should work closely with the automated resource sharing networks to develop a proposal for using MassNet for linking the automated library systems of the resource sharing networks and, potentially other automated library systems in the Commonwealth.

One of the advantages of linking with MassNet is that it supports several communications protocols: X.25 (which corresponds to layers 1-3 of the OSI model and which tends to be favored by formal library groups like the Library of Congress), TCP/IP (which tends to be favored by academic data processing centers), DECNET, Novell IPX and AppleTalk. Thus, computers on the network can communicate using a variety of protocols across the network.

Related to the above recommendation, we recommend that:

RECOMMENDATION 8: MBLC should actively participate in a further study on the feasibility and design of a common educational network in the Commonwealth which would serve libraries, higher education and K-12 schools.

Such a network should be built on existing strengths and equipment. A combined network of this kind would benefit libraries in a number of ways:

- reduce the communications costs libraries are currently paying and lower the cost of incremental expansion,
- make better use of existing automated library systems by providing statewide access to all systems,
- facilitate sharing of library materials and information among all libraries in Massachusetts, thereby, increasing the return-on-investment in library resources,
- provide a cost-effective way to include school library holdings,
- improve collaboration among the libraries, K-12 schools and higher education,

- provide the potential to connect to OCLC's new X.25 network at high speed through a relatively inexpensive x.75 gateway, eliminating the need for many current dedicated OCLC lines,
- Provide the framework for improved access and resource sharing with academic libraries in both public and private higher educational institutions, and
- Lay the ground work for future linked automated library systems as the vendors comply with Z39.50.

The second issue of access to additional databases through automated library networks is being investigated by several library networks in the U.S. Two approaches seem to be emerging. One approach is for the networks to tapeload the databases on to a disk unit connected to the integrated library system. The databases are then accessed through the online public access catalog module although the query language is usually different. Sometimes an additional computer processor is required, such as the BRS search engine. The University of Delaware, the Florida Center for Library Automation (of the state university system) are examples of this approach.

The second approach is to make the databases available in CD-ROM rather than tape format. For this approach to work, special purpose multiple access software is needed in addition to the search software. There is usually some practical limitation to the number of "simultaneous" searches that can be conducted against a single CD-ROM. Access can be increased by loading the CD-ROM disks into a jukebox arrangement.

The main problem associated with either of these two approaches to intra-network access to commercially available databases is negotiating the license arrangements with the database publishers. Some database publishers will not, at least not yet, license their products to library networks that cut across multiple governmental/organizational units. Thus, while they are willing to make databases available across a campus for example, they are not willing to make them available when several different institutions are involved. Many of the publishers are hesitating to license their products for network access because they simply do not know how such access will affect their online access market. Consequently, they do not know what to charge for the licenses. A recent survey of several database publishers determined that most publishers have developed a charging policy for intra-institutional network access to their databases; however, multi-institutional access will be determined on a case-by-case basis.

It is recommended that:

RECOMMENDATION 9: The automated resource sharing networks and MBLC, through the Network Advisory Council, should determine the interest of member libraries in access to databases and enter into discussions of a pilot project to evaluate network access with the respective database publishers.

One of the reasons why the publishers may be willing to enter into an agreement is that the pilot project could provide the publishers with useful evidence of the extent of use of their databases in a multi-institutional network environment.

4.3 Library Support in Small Communities

Through our interviews and discussions there appears to be a strong sentiment that every community should have at minimum basic library services consisting of a core collection and reference materials as well as a staff member who is well trained on how to gain access to the collections and reference services provided through their Library Cooperatives. These non-full service libraries can be called library centers, reading centers, Library Cooperative branches, or whatever name that is suitable to local government and the library community. Therefore, we recommend that:

> **RECOMMENDATION 10:** The Library Cooperatives should plan their services to support small community (i.e., those serving fewer than 10,000 population) library needs to the greatest degree possible, although not to the exclusion of large community needs.

In particular, Library Cooperative plans should potentially include cooperative purchasing, acquisitions and other operational activities for such small library centers (and other types of small libraries). These plans should also include access by library center staff and patrons to Library Cooperative resources and the Library of Last Recourse, central collections and reference and research services. Consultant services should include professional librarian management support, children's programs, and so on. These services should also include continuing education and training of library center staff.

Library Cooperatives should also help arrange and coordinate consolidation between communities when such consolidation makes sense and is agreeable to both municipalities.

MBLC should reexamine its library certification to ensure that "library centers" are taken into account and properly certified. The certification should include minimum collection size (and content), reference materials, qualifications of staff (not necessarily MLS), facilities, and so on.

Base funding for library centers must come from the local municipality. However, the Library Cooperative can arrange to keep operating costs to a minimum by providing or arranging for cooperative services. The library centers should be given the option of paying for these services under a contractual arrangement or by having State Aid redirected to pay for the services directly. The payment should include a base for access to central collections and reference and research services. MBLC should provide "seed"money to help initiate and consolidate resource sharing and consolidation programs.

4.4 Preservation

Massachusetts has an invaluable resource in its collections of library materials and artifacts. Some of these materials are unique and cannot be found elsewhere or duplicated. Yet this resource is in danger of disappearing because the paper upon which information is found is disintegrating as a result of the manufacturing process used in the last 150 years. Also, it has been found that there needs to more information collected and disseminated in Massachusetts concerning disaster control and protection of library materials. Therefore, it is recommended that:

RECOMMENDATION 11: The MBLC and other agencies should continue to examine and plan a sound Commonwealth-wide preservation program.

The MBLC should serve as an advocate of and focal point for preservation activities for library and archival materials housed in all types of institutions in the Commonwealth, whether they are circulating collections in public libraries or rare book or manuscript collections in research libraries. The MBLC and the Massachusetts Archives should coordinate activities to ensure the preservation of cultural heritage in all institutions in Massachusetts.

Preservation should be recognized as an integral part of all library and archival operations in all types of libraries, archival repositories, town clerks offices, and historical societies and museums. Management of library and archival collections as physical objects should be considered integral to custodians' professional activities. Preservation decisions should be based on collection management and collection development policies and decisions. The development of statewide, Library Cooperative and individual institutional disaster preparedness plans should be a priority of the MBLC to protect the collections housed in Massachusetts repositories.

4.5 Role of MBLC - Board and Staff

There is a strong sentiment throughout the Commonwealth that there needs to be an "umbrella" organization which is collectively concerned with and responsible for cooperation among all types of libraries in Massachusetts. While other states have utilized other approaches for achieving this goal (e.g., the State Advisory Council on Libraries or the state library associations), the MBLC is the appropriate agency, in Massachusetts, partially because LSCA Title III funding deals with multitype library cooperation. There is also widespread opinion that the MBLC should assume a stronger leadership role in representing libraries regarding relevant change, legislation and funding. In order to achieve a stronger leadership role, it is necessary to have appropriate legislative and funding support.

There is general feeling that the Board has improved considerably in recent years. However, for the Board to have greater bearing on Commonwealth legislation and local affairs,

the Board membership should be viewed as "Blue Ribbon" with power to have an appropriate impact on library affairs. This can be done on a replacement-by-replacement basis. It could also be achieved by the current Board voting to re-constitute Board membership through legislation or other appropriate means.

In terms of library coordination and cooperation, school libraries in Massachusetts are found to be woefully behind those in other states. These functions simply are not being performed, much to the detriment of school children in Massachusetts. Substantial improvements and/or cost savings should be possible through relevant resource sharing. Because of the MBLC's responsibility for resource sharing and library cooperation among all types of libraries, it is recommended that:

RECOMMENDATION 12: The function of cooperation among school libraries and between school libraries and other types of libraries should be delegated to the MBLC with appropriate funding by the Department of Education for Library Cooperative participation and administration.

Authorization should be achieved through amendment to existing statutes governing public education to provide for an annual appropriation to the Department of Education:

> For the development and support of school library media centers; provided that not less than (a specified) percent of funds so appropriated shall be allocated to the Massachusetts Board of Library Commissioners for the purpose of integrating school library media cents for multitype resource sharing consortia as authorized by Section 19E paragraph (1) of the Massachusetts General Laws, according to a plan developed by the Massachusetts Board of Library Commissioners in consultation with the Secretary of Educational Affairs and approved by the Joint Committee on Ways and Means.

It is highly recommended that:

RECOMMENDATION 13: The MBLC's statutory mandate to develop school library media services should be reestablished by reinstating the language (or language now deemed more appropriate) of Section 19E paragraph 3.

That language reads as follows:

> (3) For the establishment and development of school library media services, including:
>
> (a) the acquisition or rental of library media materials, resources, and appropriate equipment;
>
> (b) supplementary subprofessional library media personnel;
>
> (c) consultative services.
>
> Funds as may be appropriated shall be disbursed according to a formula established by the board which shall take into account the following factors: the average expenditure over the immediately preceding five years by the local committee for the library media resources; the ration of library media center professional staff to pupil enrollment; the per pupil expenditure for said staff; and the current year school committee expenditure for library media resources.
>
> In certifying school library media programs eligible for aid under this clause, the board shall establish minimum standards for personnel, accessibility of resources, appropriateness of library media services; and local budget support.

The MBLC currently distributes Commonwealth and Federal funds to public libraries and multitype library cooperatives. They also provide consulting and other services to libraries in Massachusetts. It is recommended that:

RECOMMENDATION 14: The MBLC should assume a stronger role and responsibility in directing how existing and new Commonwealth and Federal funds are used to assure that residents of the Commonwealth receive the best possible library service.

This means that the Library Cooperatives (or any other organization funded to provide services) must be accountable to both the Library Cooperative participants and the MBLC for the services provided. We believe that the Library Cooperatives should be autonomous in terms of service provision. In order to do this, Library Cooperatives and their members should report at least annually, appropriate measure of input, output and outcomes we recommend that:

RECOMMENDATION 15: The MBLC should develop accountability mechanisms, instruments and definitions for Library Cooperatives, Library of Last Recourse, and other funded projects.

We recommend that:

RECOMMENDATION 16: The MBLC should develop a five-year plan for its own mission, goals, measurable objectives and strategies for change regarding implementation of the LSCA Plan.

In particular, the plan (coinciding with the Long-Range Program 1991-1996) should spell out how the MBLC (Board and Staff) will help achieve the goals and objectives of the Long-Range Program.

4.6 Funding

Clearly, funding is one of the most pervasive problems with all libraries in Massachusetts. Achieving adequate funding must be approached in long-range terms, because there is no simple solution to this problem. Therefore, we recommend that:

RECOMMENDATION 17: The MBLC should develop a long-range program for addressing the funding for all types of libraries in Massachusetts including funds for reciprocal borrowing and interlibrary lending, seed money for cooperative projects involving all types of libraries, an appropriate state share of the ongoing costs of operating the cooperatives, support for libraries that meet standards, support for the LLR, and support for the MBLC and the agencies it serves directly.

This plan should be developed in close coordination with the professional library community.

We believe that the MBLC should fund the following kinds of resource sharing functions and specific services:

- one-time development of resource sharing options, systems and services such as planning and development of the Library Cooperatives, specific automated systems, gateway systems and so on;
- services in which resource sharing benefits all libraries, but costs are disproportionately high for a few libraries such as with net lending and reference and research services;
- when a special population is served (e.g., inmates, nursing homes, etc.) or when specific services are needed (e.g., literacy programs for non-English speaking residents); and
- when a needed service has infrequent use such as with some consulting services that can best be accomplished at a state-wide level (i.e., by MBLC staff or through contract).

Funding for these resource sharing services does not preclude Direct Aid to libraries in order to provide incentives to meet meaningful standards.

One problem deals with funding resource sharing involving non-public libraries. Clearly there needs to be some transfer of funds at the Commonwealth level to support school academic, institutional and special libraries. This funding would be used for appropriate one-time development, coordinating activities at MBLC, and contributions to net lending and reference and research. The largest share probably would involve school libraries, perhaps based on other states, would be in the $2 million range.

There is a wide disparity of opinion among lay persons concerning taxation versus other forms of Commonwealth-level funding for libraries. Statewide funding of libraries in other states should be reviewed (e.g., percent of sales tax, millage or other dedicated tax, penal fines, lottery, etc.). The three or four most promising approaches should be carefully studied (perhaps even conducting a Commonwealth-wide survey to determine likely acceptance of one or more of the approaches) and a massive public education program should be initiated to implement the program considered the most likely to succeed. Revenue from new sources should be dedicated to support all publicly funded library services and to provide "seed" money for future programs. LSCA funds may not be available for such purposes in the future.

The MBLC should intensify its program for supporting and training local library communities in how to raise funds from endowments and fund-raising mechanisms. The strongest single theme from the lay interviews was that libraries are not innovative enough in this regard. On the other hand, fund raising is very time consuming and has met with failure on a number of occasions. Furthermore, fund raising should not be considered a short-term solution to current budgeting problems. Therefore, any programs must be well thought out and initiated only when there is likely to be a sufficient pay-off. This is also an ideal function for sharing resources. Advice from MBLC staff should help in this regard.

We recommend that:

RECOMMENDATION 18: The MBLC should spearhead a widespread public education program that highlights the importance, usefulness and value of libraries.

The program should address the critical condition that the Commonwealth's libraries are in and warn of the implications of any further erosion of funding and support for the libraries on the well being of the Commonwealth's residents and businesses. This program should support both Commonwealth-level funding efforts as well as local fund-raising programs.

4.7 Accountability

As a matter of good government practice, recipients of Commonwealth funding should be accountable for the services provided from these funds. Accountability involves two perspectives:

- accountability to the funding agency (i.e., taxpayers), and
- accountability to resource sharing members or other users of the services.

Accountability to the funding agency should include a clear statement of how the funds are expended, what services are provided, and the cost of each service (on a cost per unit basis whenever relevant). Accountability to service users would involve elected boards and/or advisory committees, as well involving the users themselves through user surveys and complaint mechanisms.

Library Cooperatives are likely to be heavily funded by the members in addition to initial "capital"-funding and ongoing support by MBLC. It is essential that member libraries and their funders know exactly what they are paying for. Within the Library Cooperatives, some of the services provided to members would actually be provided by vendors, other libraries (e.g., reference center services), or even other Library Cooperatives. Arrangements for these services must require a clear statement of accountability. Thus, we recommend that:

> **RECOMMENDATION 19:** Plans for Library Cooperatives that are submitted to MBLC should include a clear statement of how accountability to their members and to MBLC will be achieved, and what the cost will be to provide such accountability.

There has been a great deal of ambivalence throughout Massachusetts concerning the services provided by the Library of Last Recourse (LLR) and, to a lesser degree, services provided by subregional libraries. We believe that the root of concern about both sources of services can be resolved through the accountability mechanisms mentioned above. In both instances, a polarization of perception of level, quality and timeliness of services has developed -- some library directors being very supportive and others being extremely negative. Part of the negative perception is caused by the fact that the library directors do not feel they receive an adequate benefit from the Commonwealth-funded services (largely because of distance from the source or perception of quality of the services provided), but a great deal of the negative perception is caused by ignorance of the services provided by the LLR. At one time, the LLR was thought of as a research library serving walk-in patrons with a non-circulating collection. Now patrons from other libraries can obtain interlibrary loans of books to be used in the borrowing library. Also, LLR provides copies of articles through ILL (by facsimile in the Eastern Region). The LLR also will answer reference requests. Complaints with service concern interlibrary loan response times and the perception that reference requests from other libraries or their patrons are given second priority to in-house requests.

Thus, we recommend that:

RECOMMENDATION 20: All entities receiving funds administered by the MBLC (Library of Last Recourse, Regional Contracting Libraries, Library Cooperatives, and others) should be held to higher standards of accountability than are presently required. Accountability should be measured by a series of agreed upon standard output measures to be reported to the MBLC and to users of the service on a regular basis.

At minimum, the LLR should report how the funds are expended, the level of service provision and unit costs. Furthermore, the LLR should have a library community-wide advisory group to help determine resource allocation and relative importance of Commonwealth-wide services. For example, more emphasis might be placed on (1) a reference center dedicated exclusively to outside requests from libraries and patrons (including a toll-free telephone line), and (2) delivery services. Thus, the term "Last Recourse" would refer not only to collections but also to reference referral from other libraries. We recommend that the LLR expend some funds in the next budget year to develop and implement these mechanisms.

4.8 Other Recommendations

We recommend that:

RECOMMENDATION 21 : The recommendations in **Learning at Risk**, the **Standards for School Library Media Centers in the Commonwealth of Massachusetts** and the results from the 1991 White House Conference on Libraries and Information Services should be adopted to the degree they are compatible with the recommendations of this report.

Finally, we recommend that:

RECOMMENDATION 22: The institutional and special library communities should develop similar working documents (as **Learning at Risk**) for their libraries.

For example, the Department of Corrections (DOC) libraries could benefit substantially from recognition by DOC of the unique nature of library purchasing, operations and cooperation. These documents should be assembled by respective library communities with a focus on strengths and weaknesses and how resource sharing might support their services.

The recommendations above are addressed to providing structure and strategies to improve resource sharing in Massachusetts by:

- making current resource sharing more efficient through consolidation of services,
- a more extensive range of services to current resource sharing libraries, and
- extending resource sharing to a large number of libraries that currently do not reap the benefits of these services.

Multitype library cooperation is strongly recommended in Massachusetts in order to build upon strengths. This does not mean that every type of library or library within a particular type must engage in all forms of resource sharing. However, it does mean that every library has the opportunity to choose what services are needed and participate to a level that is advantageous to it as well as other libraries in the community.

SECTION 5

STRATEGIES FOR ACHIEVING A MULTITYPE RESOURCE SHARING STRUCTURE FOR MASSACHUSETTS LIBRARIES

5.1 Strategies for MBLC

1. Distribute the report, **Massachusetts Libraries: An Alliance for the Future** and solicit feedback from libraries across the Commonwealth.

2. Establish the Massachusetts Library Resource Sharing Council and the Massachusetts Library Resource Sharing Policy Board, appoint members and convene meetings as necessary.

3. Educate legislators as to the importance and value of library resource sharing to Massachusetts.

4. Prepare legislative changes necessary to establish the Massachusetts library resource sharing structure.

5. Prepare proposals for the next legislative session for funding and necessary staff positions associated with the establishment of an interlibrary cooperation group within MBLC.

6. Investigate the potential use and expansion of MassNet to support interlibrary telecommunications throughout Massachusetts.

7. Keep abreast of all developments in the Regions, the Automated Resource Sharing Networks and other library cooperative groups (e.g., NELINET, Boston Library Consortium, etc.) involving Massachusetts libraries which may potentially have an impact of statewide library resource sharing.

8. Set up and convene committees of representatives of the library community to address issues related to:

   - Library Cooperative development
   - automation standards
   - telecommunications and electronic messaging
   - interlibrary loan protocols and procedures
   - direct reciprocal borrowing protocols and procedures
   - resource sharing compensation
   - delivery systems
   - cooperative collection development
   - conservation and preservation
   - continuing education and training
   - identification and conversion of special collections
   - statistical and cost reporting standards
   - evaluation of resource sharing

- liaison with professional organizations and interest groups
- linking automated library systems

9. Hire, employ, or re-assign additional staff as required to support the interlibrary cooperation unit.

10. Develop and maintain up-to-date information on automated systems and equipment in use in all types of Massachusetts libraries.

11. Coordinate access to the telecommunications/electronic mail system (MassNet-based), as appropriate, to libraries having the necessary equipment.

12. Continue to support the retrospective conversion of special collections and loading of bibliographic records and local holdings information into automated library systems.

13. Support the upgrading of non-MARC machine-readable bibliographic records into MARC format and their loading into automated library systems.

14. Support the addition of serials title records and holdings statements to the automated library systems.

15. Establish and implement priorities for retrospective conversion.

16. Provide online access to automated library systems to an increasing number of libraries - push not only for the restoration of the telecommunications funds but for an increase in these funds to increase access to the databases.

17. Recognize the increasing numbers of direct library-to-library transmission of interlibrary loan requests through the Automated Resource Sharing Networks, NELINET/OCLC, etc. Establish protocols and mechanisms by which all libraries can take full advantage of interlibrary loan on a statewide basis.

18. Provide or arrange for advisory and consulting services to libraries in the areas of:

    - resource sharing activities
    - automation
    - retrospective conversion
    - telecommunications
    - preservation and conservation

    Note that a great deal of expertise is already in place in the Massachusetts library community. Such expertise should be recognized and utilized as much as possible so that duplication of effort can be minimized.

19. Implement and evaluate at least two pilot projects for Library Cooperatives.

20. Investigate volume discounts for equipment, materials, database services, delivery services, etc.

21. Coordinate acquisition of volume purchases of equipment/services.

22. Include resource sharing information in the MBLC information memoranda and technical bulletins.

23. Produce and disseminate more detailed resource sharing information for resource sharing participants.

24. Work with Library Cooperative representatives to develop standard unit-based charges for provision of resource sharing services, as appropriate.

25. Work with Library Cooperative representatives to develop appropriate methods for distribution of available resource sharing funds.

26. Prepare and sign contracts with Library Cooperatives for provision of state-funded resource sharing services.

27. Coordinate developments across Library Cooperatives in the areas of:

- interlibrary loan
- direct reciprocal borrowing
- delivery
- reference referral
- shared automated systems
- shared access to external databases
- shared technical processing

28. Collect appropriate statistical and cost reports on resource sharing activities and systems.

29. Set measurable objectives and evaluate the success of the statewide resource sharing program against these objectives.

30. Keep abreast of developments in nationally or vendor developed transparent interfaces or interface protocols to link dissimilar automated library systems.

5.2 Strategies for the Regions/Automated Resource Sharing Networks/Library Cooperatives

1. Review the report, **Massachusetts Libraries: An Alliance for the Future.**

2. Solicit interest in, and commitment of, libraries of all types to share resources.

3. Hold meetings to discuss **Massachusetts Libraries: An Alliance for the Future.**

4. Provide the MBLC staff with a listing of all libraries interested in participating in resource sharing activities.

5. Educate legislative representatives and funding agencies as to the importance of library resource sharing to Massachusetts.

6. Prepare a proposal to form one of the Library Cooperatives and submit it to MBLC. The proposal should include the legal structure, governance structure and proposed initial service offerings of the Library Cooperative, as well as a list of potential members.

7. Select a representative to represent the cooperative at meetings of the Statewide Resource Sharing Advisory Council.

8. Solicit volunteers to serve on each of the respective resource sharing committees convened by the Statewide Resource Sharing Council.

9. Set up and convene committees to review and respond to statewide resource sharing standards and programs.

10. Review and adopt national and statewide protocols and standards for:

    - bibliographic records and holdings statements
    - interlibrary loan
    - direct reciprocal borrowing
    - telecommunications
    - electronic messaging
    - automated systems
    - reporting statistics and management information.

11. Seek and obtain funding to support various resource sharing programs.

12. Develop and implement plan for delivery services.

13. Identify special collections and resources in the cooperative.

14. Develop and implement a cooperative collection development program.

15. Identify the needs for and establish reference and referral center(s).

16. Identify the needs for and coordinate access to technical processing services.

17. Develop automation plan.

18. Determine charges and/or allocation of funds for provision of shared systems and services, as appropriate.

19. Prepare and sign contracts with all libraries sharing systems and/or services.

20. Evaluate the success of cooperative and statewide resource sharing programs.

21. Share experiences gained from resource sharing with libraries in the service area that do not participate in resource sharing or which do not participate in various resource sharing activities.

22. Share experiences gained from pilot and other projects with the interlibrary cooperation group at MBLC and with other cooperatives and libraries throughout the Commonwealth.

23. School libraries develop and maintain a database of learning resources available within each school district within the cooperative service area.

5.3 Strategies for Local Libraries

1. Review **Massachusetts Libraries: An Alliance for the Future.**

2. Educate boards, trustees, legislative representatives, and funding agencies as to the importance of library resource sharing to Massachusetts libraries and library users.

3. Seek and obtain funds to support resource sharing activities.

4. Attend meetings to discuss potential Library Cooperative formation.

5. Volunteer for participation in statewide resource sharing committees.

6. Join a Library Cooperative.

7. Select appropriate level of participation in the Library Cooperative. Note that this level of participation may change over time.

8. Purchase appropriate equipment to access the telecommunications/electronic mail system.

9. Use the telecommunications/electronic mail system to facilitate interlibrary communications.

10. If not automated, consider alternatives for automation:

    - purchase a MARC-based automated library system
    - share the purchase of a MARC-based automated library system with another library or group of libraries

11. Convert bibliographic and holdings information into machine-readable form, as required.

12. Notify Library Cooperative of special collections and resources.

13. Pay appropriate fees for use of Library Cooperative resource sharing services, as appropriate.

14. Participate in pilot projects, as appropriate.

15. Evaluate the success of Library Cooperative and statewide resource sharing programs.

MASSACHUSETTS LIBRARIES: AN ALLIANCE FOR THE FUTURE

APPENDIX
FINAL REPORT

for

THE MASSACHUSETTS BOARD OF LIBRARY COMMISSIONERS
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APPENDIX

Bibliography
Glossary of Terms
Tables

SOURCE:

Table 3.1: MBLC Massachusetts Public Library Data, May 1991

Tables 3.3, 3.4, 3.5, 3.6, 3.7, 4.2, 5.4, 6.1, 6.2, 6.3, 6.4, 6.5, King Research, Inc., Input and Output Survey of Public Libraries

Tables 4.1, 4.3, 4.4, 4.5 HEGIS Disks, U.S. Dept. of Education, 1989

Tables 5.2, 5.5, 5.6, 5.7, 5.8, 5.9, Statistics of Public and Private School Library Media Centers, 1985-86. Center for Education Statistics 1987

Size of Library: Small - 250-16,000 items circulated; Mid-small - 16,000-54,000; Mid-large - 54,000-142,000; Large - over 142,000;

Additional tables may be found in the Technical Report which is available from the MBLC.

BIBLIOGRAPHY

Alliance For Excellence: Librarians Respond to A Nation At Risk. Recommendations and Strategies from Libraries and the Learning Society. U.S. Department of Education. July 1984.

Endangered Minds: Why Our Children Don't Think. Jane M. Healy, Ph.D. Simon and Schuster. New York 1990 ISBN 0-671-67439-1

Information Power: Guidelines for School Library Media Programs. American Library Association - Chicago and Association for Educational Communications and Technology - Washington, D.C. 1988 ISBN 0-8389-3352-1

A Manual on the Evaluation of Information Centers and Services. José-Marie Griffiths and Donald W. King. AGARD, Available from the American Institute of Aeronautics and Astronautics Technical Information Service, 555 West 57th Street, New York, NY 10019. 1991 ISBN 92-835-0614-6

Keys To Success: Performance Indicators For Public Libraries.
José-Marie Griffiths and Donald W. King. King Research, Ltd. Unipub, 4611 F. Assembly Drive, Lanham, MD 20706. 1-800-274-4888.

Learning At Risk. Long Range Plan for the Improvement of Massachusetts Public Higher Education Libraries. Prepared for the Massachusetts Board of Regents of Higher Education. Prepared by The Statewide Library Planning Committee. April 1990.

Library Systems in New York State.
José-Marie Griffiths and Donald W. King. Prepared for New York State Library, Division of Library Development. Prepared by King Research, Inc., Knoxville, TN 37932. April 1989.

The Municipal Pie..What's Your Library's Share??? A Report from the Data Analysis and Research Unit, Massachusetts Board of Library Commissioners. November 1989

Public Libraries in 50 States and the District of Columbia: 1989. National Center for Education Statistics. Arthur Podolsky, Postsecondary Education Division. April 1991.

Massachusetts Public Library Data. Selected Statistics, FY90. Data Analysis and Research Unit. May 1991.

Standards for School Library Media Centers in the Commonwealth of Massachusetts.
Massachusetts Association for Educational Media. 1988

Statistics of Public and Private School Library Media Centers, 1985-1986 (with historical comparisons from 1958-1985). Contractor Report. Center for Education Statistics, Office of Educational Research and Improvement, U.S. Department of Education. Westat, Inc., Rockville, Maryland. April 1987.

A Study of Interlibrary Loan and Reference Referral Services in the State of Arizona.
José-Marie Griffiths and Donald W. King. Prepared for Arizona Department of Library, Archives and Public Records. Prepared by King Research, Inc., Knoxville, TN 37932. June 1990.

Study of Library Systems in New York State: Summary.
José-Marie Griffiths and Donald W. King. Prepared for New York State Library, Division of Library Development. Prepared by King Research, Inc., Knoxville, TN 37932. April 1989.

A Study of Interlibrary Loan and Reference Referral Services in the State of Wisconsin.
José-Marie Griffiths, Donald W. King, and Laurence W. Lannom. Prepared for Wisconsin State Libraries. Prepared by King Research, Inc., Knoxville, TN 37932. September 1988.

Pennsylvania Interlibrary Loan Code.
José-Marie Griffiths. Prepared for the State Library of Pennsylvania. Harrisburg, Pennsylvania: Pennsylvania Department of Education, State Library of Pennsylvania. Prepared by King Research, Inc. August 1987.

Interlibrary Loan Compensation Plan for the Commonwealth of Pennsylvania. Final Report.
José-Marie Griffiths and Donald W. King. Prepared for the Pennsylvania Department of Education, State Library of Pennsylvania, Library Development Division. Harrisburg, PA: Pennsylvania Department of Education, State Library of Pennsylvania. Prepared by King Research, Inc., Knoxville, TN 37932. March 1985.

Interlibrary Loan Compensation Plan for the Commonwealth of Pennsylvania. Executive Summary.
José-Marie Griffiths and Donald W. King. Prepared for the Pennsylvania Department of Education, State Library of Pennsylvania, Library Development Division. Harrisburg, PA: Pennsylvania Department of Education, State Library of Pennsylvania. Prepared by King Research, Inc., Knoxville, TN 37932. March 1985.

GLOSSARY OF TERMS

COOPERATIVE SERVICES is a generic term to indicate any formal library network or cooperative enterprise. Cooperative services would include the Massachusetts Board of Library Commissioners (to the extent to which they provide consultant and other services), Regional Library Systems, Automated Resource Sharing Networks, Boston Public Library as the Library of Last Recourse and any other formal library cooperative or network.

SHARED OR COOPERATIVE OPERATIONAL ACTIVITIES. These activities are those performed by cooperative services, member libraries, or other organizations for the benefit of cooperative service member libraries. The activities may be provided to member libraries because of special staff competencies or equipment, or because member libraries do not have sufficient volume to justify performing activities by themselves.

ACQUISITIONS OR ORDERING. Those activities related to systems used for obtaining library materials (books, periodicals, equipment and other materials), through purchase, exchange, or gifts. This includes preorder bibliographic searching, ordering and receiving materials, processing invoices, and the maintenance of the necessary records related to acquisitions.

CATALOG PRODUCTION. The process of producing catalog cards, tape, microfiche, microfilm, etc.

CATALOGING. Includes those activities performed by staff of cooperative services and/or library members, or other outside personnel, in preparation of bibliographic records for a catalog.

CIRCULATION CONTROL. The service/activity of lending, which includes those activities connected with charging or discharging items and maintaining records borrowed from the library or other collections. In a cooperative service environment, it includes the use of shared computer-based circulation systems, either shared by a cluster of libraries with cooperative service headquarters facilitation, or provided directly and entirely by headquarters to libraries.

COLLECTION DEVELOPMENT. This activity may be done by cooperative services for specific library members. It encompasses those activities which relate to or impact on the development of library collections of the library member, including determining selection policy, assessment of user needs, collection evaluation, selection of materials, etc. It includes providing pre-selected "buying lists".

CONSERVATION/PRESERVATION. The activities associated with maintaining library and archival materials for use, either in their original physical form, or in some other useable way. Includes the use of chemical and physical procedures for preservation, binding and rebinding procedures, preservation microfilming, etc.

CONSULTANT SERVICES. Indicates consultation performed by cooperative service or member library staff or external consultants to support member libraries.

COOPERATIVE COLLECTION DEVELOPMENT. Same as collection development except the activity is done for cooperative collections among member libraries. For example, certain libraries might emphasize collections in subject areas to be shared by all member libraries.

COOPERATIVE PURCHASING. This activity represents agreements used to purchase goods and maintenance services which are "mass" purchased, leased or rented through written agreements, usually at discounted rates, and shared by the library system and its members. This includes the purchase of books, periodicals, microforms, audiovisual materials which are utilized by cooperative services, members, or both. It also includes shared equipment such as projectors, fiche readers, and reproduction and computer equipment, in addition to administrative and library supplies.

DELIVERY SERVICES. Items delivered or sent would include letters, delivery envelopes, packages, packets of materials (e.g., printed book-marks), and so on. Includes: (a) all staff personnel based at libraries or cooperative services who deliver materials to headquarters and/or its members in support of cooperative service activities and administration on a regular basis; (b) all delivery services, such as professional courier companies and airline couriers that support library or cooperative services. Include delivery services which are cooperatively purchased between members or between members and headquarters of cooperative services.

INTERLIBRARY LOAN. A transaction in which a cooperative service, library or Library of Last Recourse lends an item or distributes a photocopy of an item to another cooperating member or library.

INTERLIBRARY LOAN REQUEST PROCESSING. Involves the process of requesting an interlibrary loan and receiving the request to determine its disposition. It may involve a form (e.g., ALA form) or the request could be transmitted by an electronic medium. Request processing would include the actual preparation of a request by a borrower (including input to electronic medium) and handling the request up to the point that its disposition is determined (e.g., to fulfill in library, refer to another source, or refer back to borrowing library). It does not include processing the material being loaned or the process of verifying or of locating the material for referral to that location. Activities might include acting as a clearinghouse for interlibrary loan requests, using computer information data bases to locate the information requested, referring interlibrary loan requests from one library to another.

INTERLIBRARY LOAN VERIFYING AND LOCATING NEEDED MATERIAL. This activity involves searching to verify and/or locate an item to be borrowed or loaned. The activity might be done by the borrowing library or referred to another source such as a cooperative service to be done on behalf of the borrowing library. External sources or systems might be employed, such as a cooperative service-wide union catalog, OCLC, BRODART, etc.

MANUAL SEARCHING. This would include manual searching through printed indexes or other reference materials.

MATERIALS EXAMINATION. This includes the examination of all new acquisitions of books, audiovisual materials (films, slides, sound tapes and records), microfiche, and other information/reference materials for possible inclusion in the cooperative service holdings or for sharing by member libraries.

ONLINE BIBLIOGRAPHIC SEARCHING. Includes access to online bibliographic databases (such as Medline, Compendex, LEXIS, CA, etc.), and access to online catalogs through an external system such as OCLC, a network-installed or network-developed system. Searching for the purpose of interlibrary loan (ILL) should be covered under Interlibrary Loan Verifying and Locating Needed Material (1.3) and related electronic databases (e.g., OCLC, BRODART).

ONLINE OTHER DATABASE SEARCHING. Includes access to numeric databases (such as ARBITRON, CENSUS, AIRES, BI/DATA, etc.) or other databases available externally through vendors, database producers, or by other means.

OUTREACH. Outreach services would include services that are specifically targeted to meet the needs of such groups as the illiterate, persons with impairments, the aging, etc.

PHYSICAL PROCESSING. The activities carried out by a library or cooperative services, processing center, or others, to prepare items for use. For example, physical processing of books includes jacketing, affixing labels and pockets, ownership marking, etc.

PUBLIC RELATIONS. Activities and materials used to promote cooperative services, member libraries, or libraries in general. Publicity might be achieved through posters or signs, newspaper articles, radio or television.

RECORDKEEPING FOR MEMBER LIBRARIES. Includes maintaining payroll, statistical and financial records necessary to support management functions and decision making of member libraries.

REFERENCE/INFORMATION AND REFERRAL SERVICE. Includes manual preparation or verification of bibliographic citations, or both, responding to information requests, accessing computer information databases for reference purposes, and allocating responsibility for reference services.

REFERRAL SEARCHING SERVICES. Includes manual or computer searching of lists, files, directories or special-purpose databases used for referral of patrons to resources, such as special collections, consultants, equipment, etc. Also includes development of files, directories, or databases used in referral.

RESEARCH ANALYSIS WITH WRITTEN REPORT. This includes search results or other research that requires interpretation or analysis of secondary information sources. Research analysis usually implies that results are reported in written form.

RETROSPECTIVE CONVERSION. Conversion of bibliographic information into machine-readable form so that automated systems can be used to perform library functions such as circulation, public access catalogs, etc.

UNION LIST/CATALOG PRODUCTION. The process of compiling and providing union catalogs and/or lists of library holdings; includes lists of monographs, non-print media (e.g., computer tapes, audio-visual materials, etc.), and serials (e.g., journals, newspapers, magazines, etc.).

TABLE 1

SUMMARY MASSACHUSETTS LIBRARY STATISTICS

Inputs and Outputs	Academic	Public	School	Institutions		Special
				Publicly funded	Private	
No. of libraries	150	374	1,408	56	156	652
Population						
Persons served (million)	0.74	6.0	0.83	0.04	0.05	0.70
Persons served per library (000)	4.9	16.0	0.59	0.8	0.3	1.1
Holdings						
Monographs (mil. vols.)	34	22	11.6	0.4	0.6	3.1
Monographs per library (000)	230	60	8.2	6.8	3.9	4.8
Monographs per capita	46	3.7	14	9.1	13	4.4
Periodicals (000 titles)	335	49	37	3.3	44	220
Periodicals per library	2,200	130	26	59	280	340
Periodicals per 10,000 capita	4,500	82	450	750	9,400	3,200
Visits						
Total (million)	21	27	15	1.5	1.2	7.6
Visits per library (000)	140	72	11	27	7.7	12
Visits per capita	28	4.5	18	34	26	11
Circulation						
Total (millions)	7.3	36.9	18	0.7	0.3	2.5
Circulation per library (000)	49	99	13	13	1.9	3.8
Circulation per capita	10	6.2	22	16	6.3	3.6
Expenditures						
Total ($ millions)	$146	$125	$50	$0.8	$3.4	$38
Expenditures per library ($000)	$970	$330	$36	$14	$22	$58
Expenditures per capita ($)	$20	$21	$60	$18	$72	$54
Expenditures per visit ($)	$0.70	$4.60	$3.33	$0.50	$2.80	$5.00

SOURCE: (1) King Research, Inc., Input and Output Survey of Libraries, (2) Statistics of Public and Private School Libraries 1985-86, Center for Education Statistics 1987, (3) HEGIS Disks, U.S. Department of Education, 1989.

TABLE 3.1

PUBLIC LIBRARY INCOME AND EXPENDITURES

Total Operating and Municipal Income and Total Operating, Salary, and Material Expenditures By Region and Size: Massachusetts, 1990

	Total Operating Income ($ millions)	Municipal Income ($ millions)	Total Operating Expenditures ($ millions)	Salary Expenditures ($ millions)	Material Expenditures ($ millions)
REGION					
East	90.7	83.3	88.3	62.0	14.2
Central	13.0	11.8	12.6	8.6	2.2
West	13.3	11.4	13.2	9.3	2.2
SIZE					
Small	4.2	3.5	4.4	2.2	1.0
Mid-small	8.7	7.5	8.2	5.3	1.7
Mid-large	28.5	26.2	27.5	19.2	4.9
Large	75.6	69.4	74.2	53.2	11.0
Total	117.0	106.60	114.30	79.90	18.60

TABLE 3.3
USE OF AUTOMATION BY PUBLIC LIBRARIES
Proportion of Libraries That Reported Use of Automation for Various Library Functions; By Size of Library; Massachusetts, 1990

Function Automated	Size of Libraries				Total (%)
	Small (%)	Mid-Small (%)	Mid-Large (%)	Large (%)	
Circulation	3.2	16.0	41.9	91.9	35.8
CD-ROM (staff)	3.2	-	3.2	35.1	10.2
Acquisitions	7.5	19.2	22.6	38.3	21.9
Cataloging	9.7	30.9	55.9	76.6	43.3
Catalog Production	9.7	19.2	25.8	46.8	25.4
PAC	5.4	10.6	29.0	60.6	26.5
Serials Control	5.4	3.2	3.2	18.1	7.2
ILL	14.0	40.4	65.6	62.8	45.5
Electronic Doc. Del./Fax	2.2	4.3	19.4	48.9	18.7
Electronic Mail	6.5	26.6	36.6	58.5	32.1
Electronic Bulletin Board	5.4	10.6	17.2	31.9	16.6
Budgeting/Accounting	7.5	16.0	30.1	54.3	27.0

TABLE 3.4
PUBLIC LIBRARY PATRONS AND VISITS
Total Number of Registered Patrons, Non-Resident Patrons and Visits; By Region and By Size of Library: Massachusetts, 1990

	Registered Patrons (000)	Non-Resident Patrons (000)	Visits (millions)
REGION			
East	2,407	79	20.4
Central	406	29	3.2
West	478	37	3.4
SIZE			
Small	135	3	1.3
Mid-small	306	8	1.5
Mid-large	824	28	4.6
Large	2,026	105	19.5
TOTAL	3,291	144	27.0

TABLE 3.5
PUBLIC LIBRARY COLLECTION SIZES
Total Book Volumes in Collection, Current Periodical Titles, and Number of Audiovisual Materials; By Additions and Deletions; By Region and Size: Massachusetts, 1990

	Book Volumes In Collection			Current Periodical Titles (000)	Audiovisual Materials		
	Total (millions)	Added (millions)	Deleted (millions)		Total Items (millions)	Added (000)	Materials Deleted (000)
REGION							
East	15.4	0.79	0.50	34.0	0.78	61.42	23.94
Central	2.3	0.14	0.07	6.3	0.10	22.70	2.14
West	4.7	0.18	0.11	8.3	0.20	10.88	80.40
SIZE							
Small	1.5	0.06	0.05	3.6	0.03	2.24	0.13
Mid-small	2.3	0.12	0.07	6.1	0.10	7.84	3.72
Mid-large	4.5	0.23	0.14	10.7	0.17	16.06	4.80
Large	14.1	0.70	0.42	28.2	0.78	68.85	97.82
TOTAL	22.4	1.11	0.68	48.6	1.08	95.00	106.48

TABLE 3.6
PUBLIC LIBRARY CIRCULATION
Total Circulation by Residents and Non-Residents; By Region and By Size of Library: Massachusetts, 1990

	Circulation To Residents (millions)	Circulation To Non-Residents (millions)	Total Circulation (millions)
REGION			
East	22.8	2.9	25.7
Central	4.0	0.6	4.6
West	5.6	1.0	6.6
SIZE			
Small	1.1	0.1	1.2
Mid-small	3.0	0.2	3.2
Mid-large	7.4	0.6	8.0
Large	20.8	3.6	24.4
TOTAL	32.4	4.5	36.9

TABLE 3.7
PUBLIC LIBRARY REFERENCE SERVICE:
Proportion of Libraries and Total References Searches Performed;
By Region and Size: Massachusetts, 1990

	Directional Reference		Brief Reference		Manual Searches		Online Bibliographic		Online Other		CD-ROM Searches		Research Analysis	
	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)
REGION														
East	93.0	995	93.5	730	90.5	216	36.7	281	15.1	22	32.7	135	12.1	75
Central	88.9	143	90.3	530	84.7	30	13.9	7	-	-	5.6	0.1	16.7	*
West	67.0	52	65.1	53	58.3	15	9.7	16	-	-	10.7	11.0	7.8	99
SIZE														
Small	58.1	31	55.9	23	48.4	10	7.5	16	2.2	*	7.5	2.0	5.4	99
Mid-small	90.4	34	92.6	25	86.2	14	14.9	34	4.3	2	1.1	0.1	7.5	9
Mid-large	93.6	183	95.7	112	92.5	34	23.7	5	10.8	*	10.8	*	11.8	10
Large	96.8	944	96.8	1,152	93.6	203	53.2	248	14.9	20	66.0	144	22.3	56
TOTAL	85.0	1,190	85.0	1,313	80.2	261	24.6	303	8.0	22	21.4	146	11.8	174

* Either non-response or too small.

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TABLE 4.1
NUMBER AND EXPENDITURES OF ACADEMIC LIBRARIES
Number Libraries, Total and Average Expenditures;
By Type of Expenditure and Type of Library: Massachusetts, 1989

	Public State Funded	Public Non-State Funded	Private	Total
Number of Libraries	29	9	112	150
Total Expenditures ($ millions)	32.3	1.0	112.6	145.9
Expenditures per Library ($000)	1,114	109	1,005	973
Total Salary Expenditures ($ millions)	17.8	0.7	59.7	78.2
Salary Expenditures per Library ($000)	615	75	533	521
Total Print Collection ($ millions)	4.4	0.1	13.4	17.9
Print Collection Expenditure per Library ($000)	150.1	10.2	120.0	29.6
Total Serial Expenditures per Library ($ millions)	5.3	0.1	17.5	22.9
Serial Expenditures per Library ($000)	183.4	10.2	155.9	152.5

TABLE 4.2
USE OF AUTOMATION BY ACADEMIC LIBRARIES
Proportion of Libraries That Reported Use for Various
Library Functions: Massachusetts, 1990

Function Automated	Proportion of Libraries (%) All Academic	MPHE
Circulation	70.3	84.6
Microcomputers for Patron Use	48.6	51.7
CD-ROM for Staff	37.8	41.4
CD-ROM for Patrons	59.5	62.1
Acquisitions	35.1	37.9
Cataloging	83.8	92.3
Catalog Production/Maintenance	62.2	62.1
Public Access Catalog	56.8	65.5
Serials Control	24.3	27.6
Reference	67.6	72.4
Interlibrary Loan	70.3	49.3
Electronic Doc. Del./Fax	21.6	31.0
Electronic Mail	37.8	41.4
Electronic Bulletin Board	13.5	13.8
Budgeting/Accounting	35.1	37.9

TABLE 4.3
ACADEMIC LIBRARY ATTENDANCE AND COLLECTION SIZES: Total and Average Number of Attendees Per Week, Volumes Held and Added, and Current Subscription Titles: By Type of Library: Massachusetts, 1989

	Public Non-State Funded	Public State Funded	Private	Total
Total Attendees (000)	5.0	130.9	392.5	528.4
Attendance per Week per School	0.6	4.5	3.5	3.5
Total Current Serial Subscription Titles Held at End-of-Year (000)	1.2	46.0	288.0	335.3
Avg. Current Serial Subscription Titles Held at End-of-Year per School	133	1,586	2,571	2,235
Total Volumes Held During Year (000)	89.7	5,263	28,356	33,709
Avg. Total Volumes Held During Year per School (000)	10	181	253	225
Total Volumes Added During Year (000)	5	198	713	916
Avg. Volumes Added During Year per School	572	6,826	6,364	6,106

TABLE 4.4
ACADEMIC LIBRARY CIRCULATION AND ILL ACTIVITY: Total and Average Circulation Per Week and Interlibrary Borrowing

	Public Non-State Funded	Public State Funded	Private	Total
Total Circulation per Week (000)	.58	31.3	113.2	145.1
Avg. Circulation per Week per School	20	347.6	1,011	967.3
Total Interlibrary Lending (000)	1.6	61.5	159.5	222.7
Avg. Interlibrary Lending per School	178	2,120	1,424	1,484
Total Interlibrary Borrowing (000)	1.7	26.9	113.9	142.6
Avg. Interlibrary Borrowing per School	1,614	928	1,017	951

TABLE 4.5
ACADEMIC LIBRARY REFERENCE SERVICE:
Total and Average Reference Transactions Per Week and Online Database Searches; By Type of Library: Massachusetts, 1989

	Public Non-State Funded	Public State Funded	Private	Total
Total Reference Transactions per Week (000)	0.6	19.0	31.3	50.9
Avg. Reference Transactions per Week per School	62	655	279	339
Total Online Database Searches	56	416	2,324	2,796
Avg. Online Database Searches per School	6	14	21	19

TABLE 5.2
SCHOOL LIBRARY RESOURCES:
Total Number of Schools, Pupils, Staff, Book Volumes, and Other Collective Statistics: By Massachusetts, U.S. and Ranking of 50 States and District of Columbia: Massachusetts, 1985-86

	Public Schools In Massachusetts	United States Total	Ranking of 51
Avg. Total Expenditures per library (excluding salaries $)	$5,444	$ 7,577	42nd
Book Expenditures Per Library ($)	2,134	2,798	40th
Book Expenditures per Pupil ($)	4.24	6.24	42nd
Serial Expenditures per Library ($)	475	655	44th
Serial Expenditures per Pupil ($)	0.81	1.49	46th
Total Collection Expenditure per School	3,332	4,743	46th
Total Collection Expenditure per Pupil	6.41	10.73	46th

TABLE 5.4
USE OF AUTOMATION BY SCHOOL LIBRARIES:
Proportion of Libraries That Reported Use for Various Library Functions: Massachusetts, 1990

Function Automated	Proportion of Libraries (%)
Circulation	19.5
Microcomputers for Patron Use	30.0
CD-ROM for Staff	14.2
CD-ROM for Patrons	27.4
Acquisitions	7.1
Cataloging	30.1
Catalog Production/Maintenance	16.8
Public Access Catalog	10.6
Serials Control	2.70
Reference	22.10
Interlibrary Loan	2.70
Electronic Doc. Del./Fax	2.70
Electronic Mail	5.30
Electronic Bulletin Board	5.30
Budgeting/Accounting	3.50

TABLE 5.5

SCHOOL LIBRARY ATTENDANCE AND USE:
Total Number of Schools, Average Per School, Average Per Pupil Attendance, Library Skills Instruction Participation; By Massachusetts, U.S. and Ranking of 50 States and District of Columbia; Massachusetts, 1985-1986

	Public Schools In Massachusetts	United States Total	Ranking of 51
Total Attendance (000)	668	42,461	-
Attendance per School per Week	482	579	34th
Attendance per Pupil per Week	0.94	1.22	49th
Total Skills Instruction Participation per Week (000)	279	15,524	-
Library Skills Instruction Participation per School per Week	201	212	26th
Library Skills Instruction Participation per Pupil per Week	0.41	0.50	37th

TABLE 5.6

SCHOOL LIBRARY RESOURCES:
Total Number of Schools, Book Volumes, and Other Collection Statistics: By Massachusetts, U.S. and Ranking of 50 States and District of Columbia; Massachusetts, 1985-1986

	Public Schools In Massachusetts	United States Total	Ranking of 51
Number of Schools	1,571	78,455	
Book Volumes Held per School	8,146	8,466	23rd
Periodical Subscriptions	26	34	48th
Film and Film Strips	685	540	74th
Audiovisual Materials	274	353	29th
Videotapes Held	45	28	7th
Software Held	18	33	39th
Other Materials	145	328	43rd

TABLE 5.7

Total Number of Schools, and Circulation Statistics Per School, Per Week, and Per Pupil; By Massachusetts, U.S and Ranking of 50 States and District of Columbia; Massachusetts, 1985 - 1986

	Public Schools In Massachusetts	United States Total	Ranking of 51
Number of Schools	1,571	78,455	
Circulation per Week (000)	604	38,326	-
Circulation per School per Week	436	523	34th
Circulation per Pupil per Week	0.9	1.2	46th

TABLE 5.8

Total Number of Schools, Total Interlibrary Borrowing and Lending Per School; By Massachusetts, U.S and Ranking of 50 States and District of Columbia; Massachusetts, 1985 - 1986

	Public Schools In Massachusetts	United States Total	Ranking of 51
Number of Schools	1,571	78,455	
Total Interlibrary Borrowing (000 items)	71.0	2,235	-
Interlibrary Borrowing Items per School	51	30	12th
Total Interlibrary Lending (000)	27.1	639.5	-
Interlibrary Lending Items per School	20	9	7th

TABLE 5.9

Computers and Other Equipment, Cable TV/Satellite, and Database Retrieval Services; By Massachusetts, U.S. and Ranking of 50 States and District of Columbia; Massachusetts 1985-1986

	Public Schools In Massachusetts	United States Total	Ranking of 51
Number of Schools	1,571	78,455	
Computers Supervised by Staff (prop. of libraries %)	27	45	47th
Avg. No. of Computers per Library	2.1	2.1	23rd
Cable TV/Satellite (%)	29	42	43rd
Database Retrieval Services: On-line (%)	2	4	46th
Database Retrieval Services: Off-site (%)	2	7	48th

TABLE 6.1
PATRONS, VISITS, EXPENDITURES AND STAFF OF SPECIAL AND INSTITUTIONAL LIBRARIES:
Total and Average Number of Patrons, Visits, Budget, and Staff; By Type of Library: Massachusetts, 1990

	Special Libraries	Public Institutional Libraries	Private Institutional Libraries	Total
Patrons/Users				
Total (000)	698	44	47	789
Per Library	1,070	780	300	910
Visits				
Total (millions)	7.6	1.5	1.2	10.3
Per Library (000)	11.7	26.8	7.7	11.9
Per Patron	10.9	34.1	25.5	13.1
Budget				
Total ($ millions)	37.9	0.8	3.4	42.1
Per Library ($ 000)	58.1	14.3	21.8	48.7
Per Patron ($)	54.3	18.2	72.3	53.4
Staff Total				
Librarians (MLS)	796	70	238	1,104
Library Technicians	636	9	144	789
Clerical/Other Support	641	84	21	746
Volunteer	39	12	147	198
Total	2,112	175	550	2,847
Per Library	3.2	3.1	3.5	3.3
Per 1000 Patrons	3.0	4.0	11.7	3.6

Special Libraries (N = 652; n = 33); Public Institutional Libraries (N = 56; n = 24); Private Institutional Libraries (N = 156; n = 11)

TABLE 6.2
USE OF AUTOMATION BY SPECIAL LIBRARIES;
Proportion of Libraries That Reported Use For Various Library Functions By Type of Library; Massachusetts, 1990

	Special Libraries (%)	Public Institutional Libraries (%)	Private Institutional Libraries (%)
Circulation	21.2	10.0	9.1
Microcomputers for Patron Use	21.2	5.0	63.6
CD-ROM for Staff	30.3	5.0	54.5
CD-ROM for Patrons	24.2	5.0	45.5
Acquisitions	12.1	0.0	36.4
Cataloging	42.4	5.0	36.4
Catalog Production/Maintenance	36.4	5.0	27.3
Public Access Cataloging	2.2	5.0	18.2
Serials Control	21.2	0.0	27.3
Reference	51.5	10.0	72.7
Interlibrary Loan	39.4	10.0	72.7
Electronic Doc. Del./Fax	24.2	0.0	72.7
Electronic Mail	27.3	0.0	27.3
Electronic Bulletin Board	21.2	0.0	18.2
Budgeting/Accounting	18.2	5.0	27.3
Other	9.1	0.0	9.1

Special Libraries (N = 652; n = 33); Public Institutional Libraries (N = 56; n = 24); Private Institutional Libraries (N = 156; n = 11)

TABLE 6.3

COLLECTION SIZE OF SPECIAL AND INSTITUTIONAL LIBRARIES: Total and Average Volumes, Volumes Added, Periodical Titles, Audiovisual Items, and Items Added: By Type of Library; Massachusetts, 1990

	Special Libraries	Public Institutional Libraries	Private Institutional Libraries	Total
Volumes				
Total (millions)	3.1	0.4	0.6	4.1
Per Library	47.3	6.8	3.9	4.7
Per Patron	44.4	8.6	12.8	5.2
Volumes Added				
Total (000)	977	29.3	14.5	1,021
Per Library (000)	1,498	523	93	1,182
Per Patron	1.4	0.7	0.3	1.3
Current Periodical Titles				
Total (000)	220	3.3	43.8	267.1
Per Library	337	59	281	309
Per 1,000 Patrons	315	75	932	339
Audiovisual Items				
Total (000)	924	69.4	671	1,664
Per Library	1,412	1,239	4,300	1,926
Per 1,000 Patrons	1,324	1,577	14,272	2,109
Audiovisual Items Added				
Total (000)	29	4.1	17.2	50.3
Per Library	44	73	110	58
Per Patron	0.04	0.09	0.37	0.06

Special Libraries (N = 652; n = 33); Public Institutional Libraries (N = 56; n = 24); Private Institutional Libraries (N = 156; n = 11)

TABLE 6.4

CIRCULATION AND INTERLIBRARY LENDING OF INSTITUTIONAL AND SPECIAL LIBRARIES
Total and Average Circulation and Interlibrary Items Borrowed and Loaned
By Type of Library; Massachusetts, 1990

	Special Libraries	Public Institutional Libraries	Private Institutional Libraries	Total
Circulation				
Total (000)	2,499	713	298	3,510
Per Library	3,830	12,732	1,910	4,060
Per Patron	3.6	16.2	6.3	4.4
Interlibrary Items Borrowed				
Total (000)	142	8.6	98	249
Per Library	218	154	628	288
Per 1,000 Patrons	203	195	2,085	316
Interlibrary Items Loaned				
Total (000)	144	2.6	92	239
Per Library	221	46	590	277
Per Patrons	0.21	0.06	1.96	0.30

Special Libraries (N = 652; n = 33); Public Institutional Libraries (N = 56; n = 24); Private Institutional Libraries (N = 156; n = 11)

TABLE 6.5

REFERENCE ACTIVITY OF INSTITUTIONAL AND SPECIAL LIBRARIES:
Proportion of Libraries That Engage in Various Reference Activities
By Type of Library; Massachusetts, 1990

	Special Libraries (%)	Public Inst. Libraries (%)	Private Inst. Libraries (%)	Total (%)
Online Bibliographic Searches	51.5	8.9	91.0	55.8
Online Searches Other Databases	39.4	8.9	27.6	35.3
Research Analysis With Report	15.2	3.6	36.5	18.3
Referral to Co., Agency, etc.	36.4	8.9	18.0	31.3

Special Libraries (N = 652; n = 33); Public Institutional Libraries (N = 56; n = 24); Private Institutional Libraries (N = 156; n = 11)